Address
on
PUBLIC MEDICINE.

Delivered at the Meeting of the International Medical Congress.

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[After a few introductory remarks on the scope and the various aspects of State Medicine, Mr. Simon proceeded as follows.]

Gentlemen,—In preventive, just as in curative, medicine, it occasionally happens that consequences more or less valuable result from some mere chance-hit of discovery; but, except so far as this may sometimes (and but very rarely) happen, disease can only be prevented by those who have knowledge of its causes,—knowledge, which does not deserve to be called knowledge, unless in proportion as it is conclusive and exact; and thoroughly to investigate the causes and their mode of operation is the quite indispensable first step towards any scientific study of prevention. Essentially, we know how to prevent by having first learnt exactly how to cause. Therefore it is that preventive medicine has had almost no development until within these later times. The germinal thought of it may be traced in even the first days of our profession. The spirit in regard of which Hippocrates has been aptly called the Father of Medicine—the scientific spirit of observation and experiment, as distinguished from the spirit of priestcraft, was one which his medical writings equally showed in their preventive as in their curative relations; and when he, some twenty-three centuries ago, expounded to his contemporaries that pathology is a branch of the science of nature—that causes of disease are to be found in physical accidents of air and earth and water, and in quantities and qualities of food, and in personal habits of life, he (not without risk of being denounced for impiety) virtually proclaimed for all time the first principle of preventive medicine, and indicated to his followers a new line of departure for those who would most largely benefit mankind. His followers, however, have had their work to do. True knowledge of morbific causes could only come by very slow degrees, and as part of the development with which the physical and biological sciences have, little by little, with the labour of ages, been building themselves up; and so no wonder that, despite the lapse of time, even the most advanced of nations are hitherto but beginning to take true measure of the help which preventive medicine can render them.

Now, what is the nature of that study of causes through which we may gradually arrive at counter-causing or prevention?

Addressing a skilled audience I shall utter what to them is the merest commonplace when I say that, in the physical and biological sciences, we acknowledge no other study of causes than that which consists in *experiment*. And the study of morbific causes is no exception to that rule: it is solely by means of experiment that we can hope so to learn the causes of disease as to become possessed of resources for preventing disease.

The experiments which give us our teaching with regard to the causes of disease are of two sorts—on the one hand we have the carefully prearranged and comparatively few experiments which are done by us in our pathological laboratories, and for the most part on other animals than man; on the other hand we have the experiments which accident does for us, and, above all, the incalculably large amount of crude experiment which is popularly done by man on man under our present ordinary conditions of social life, and which gives us its results for our interpretation.

When I say that experiments of those two sorts are the sources from which we learn to know the causes of disease, I, of course, do not mean that the mental process by which an experiment becomes instructive to us is the same in regard of the two sorts of experiment. On the contrary, the etiological problem (so long as it is a problem) is approached in the two cases from two opposite points of view; and the dynamical continuity of relation, which we call cause and effect, is traced, in the one case from the one pole, and in the other case from the other pole of the relation. In the one case, starting with knowledge of our own deliberately-prepared *cause*, our question is, What will be its effect? In the other case, starting from a certain *effect* presented to us, our question is, What has been its cause? But in the second case, just as in the first, when the question is answered, when the problem is solved, when the relation of cause and effect has been made clear, we recognise that the conjuring power which has brought us our new knowledge is the power of a performed experiment.

Let me illustrate my argument by showing you the two processes at work in identical provinces of subject-matter. What are the classical experiments to which we habitually refer when we think of guarding against the dangers of Asiatic cholera? On the one side there are the well-known *scientific* infection experiments of Professor Thiersch, and others following him, performed on a certain number of mice. On the other hand, there are the equally well-known *popular* experiments which, during our two cholera epidemics of 1848-9 and 1853-4 were performed on half a million of human beings, dwelling in the southern districts of London, by certain commercial companies, which supplied those districts with water. Both the professor and the companies gave us valuable experimental teaching as to the manner in which cholera is spread. I need not state at length the facts of those experiments, probably known to all here, but may rather justify my parallel by referring to an etiological question which will presently be discussed in our section. It concerns the *causation of tubercle*—the most fatal by far of all the diseases to which the population of this country is subject. On that subject for the last sixteen years we have had a new era of knowledge. It was the great merit of a Frenchman, M. Villemin, that he, in 1865, first made us fully aware that tubercle is an infectious disease. He did this by certain laboratory experiments performed on other animals than man. He found that general and fatal tubercular infection of the animal was produced when he inoculated it subcutaneously with a little crude tubercular matter from the human subject. That first laboratory investigation of the subject has been followed most extensively by others; and the further experiments, while entirely confirming M. Villemin's discovery, have shown that subcutaneous inoculation is not the only mode by which the tubercular infection can be propagated. Dr. Tappeiner and others have shown that the same effect is produced on the animal if tubercular matter (such as the sputa of phthisical patients) be diffused in spray in the air which the animal breathes; and Professor Gerlach of Hanover showed twelve years ago with regard to the bovine variety of tubercular disease (the Perlsucht of the Germans) that its infection can be freely introduced through the stomach if bits of tubercular organs be given in the food, or if the healthy animal be fed with milk from the animal which has tubercle. That the communicability of tubercle from animal to animal is also being tested to an immense extent by popular experiments on the human subject is what a moment's reflection will tell; and from that wide field of experiment I select one instance for illustration. I have every reason to believe that Professor Gerlach's experiments on the communicability of tubercle by means of milk are very extensively parodied by commercial experiments on the human subject. I learn, on what I believe to be the highest authority in this country, that tubercle (in different degrees) is a malady which abounds among our cows; and that so long as the cow continues to give milk, no particular scruple seems to prevent a distribution of that milk for popular use. To the persons who consume that milk an important question as to the causability of tubercle is put in an experimental form. Whether they will become infected with tubercle is a question which the individual consumers do not stand forward to answer for themselves, like the animals of the laboratory experiments; but Dr. Creighton's lately published book, entitled "Bovine Tuberculosis in Man," and a paper in which I am glad to say he brings under notice of our section the very remarkable series of facts on which he grounds that startling title, seem to suggest a first instalment of answer in accordance with Professor Gerlach's experimental finding.

The two sorts of experiment—the scientific and the popular—differ, as I have noted, in this particular: that the popular experiment is almost always done on man; the scientific almost always on some other animal. It is true that many memorable cases are on record, where members

of our profession have deliberately given up their own persons to be experimented on by themselves or others for the better settlement of some question as to a process of disease; have deliberately tried, for instance, whether, in this way or in that, they could infect themselves with the poison of plague or of cholera; and as regards one such case which is in my mind, I think it not unlikely that the illustrious life of John Hunter was shortened by the experiments which he did on himself with the ignoble poison of syphilis. There have been cases, too, where criminals have been allowed to purchase exemption from capital or other punishment at the cost of allowing some painful or dangerous experiment to be performed on themselves. And cases are not absolutely unknown where unconsenting human beings have been subjected to that sort of experiment. But waiving such exceptions, the rule is, as I have said, that scientific experiments relating to causes of disease are performed on some animal which common opinion estimates as of lower importance than man. Now, as between man and brute, I would not wish to draw any distinction which persons outside this room might find invidious; but, assuming for the moment that man and brute are of exactly equal value, I would submit that, when the life of either man or brute is to be made merely instrumental to the establishment of a scientific truth, the use of the life should be economical. Let me, in that point of view, invite you to compare, or rather to contrast with one another, those two sorts of experiment from which we have to get our knowledge of the causes of disease. The commercial experiments which illustrated the dangerousness of sewage-polluted water-supplies cost many thousands of human lives; the scientific experiments which with infinitely more exactitude justified a presumption of dangerousness, cost the lives of a few dozen mice. So, again, with experiments as to the causation of tubercle; judging from the information which I quoted to you, I should suppose that the human beings whose milk-supply on any given day includes milk from tubercular cows might be counted, in this country, in tens of thousands; but the scientific experiments which justify us in declaring such milk-supply to be highly dangerous to those who receive it were conclusive when they amounted to half a dozen. So far, then, as regards the mere getting of experimental knowledge, we must not, with a view to economy of life, be referred to popular, rather than scientific, experiment. And, in the same point of view, it perhaps also deserves consideration that the popular experiments, though done on so large a scale, very often have in them sources of ambiguity which lessen their usefulness for teaching.

Let me now briefly refer to the fact that, during the last quarter of a century, all practical medicine (curative as well as preventive) has been undergoing a process of transfiguration under the influence of laboratory experiments on living things. The progress which has been made from conditions of vagueness to conditions of exactitude has, in many respects, been greater in these twenty-five years than in the twenty-five centuries which preceded them; and with this increase of insight, due almost entirely to scientific experiment, the practical resources of our art, for present and future good to the world, have had, or will have, commensurate increase. Especially in those parts of pathology which make the foundation of preventive medicine, scientific experiment in these years has been opening larger and larger vistas of hope; and more and more clearly, as year succeeds year, we see that the time in which we are is fuller of practical promise than any of the ages which have preceded it. Of course, I cannot illustrate this at length, but some little attempt at illustration I would fain make.

First let us glance at our map. When we generalise very broadly the various causes of death (so far as hitherto intelligible to us), we see them as under two great heads, respectively autopathic and exopathic. On the one hand there is the original and inherited condition under which to every man born there is normally assigned eventual old age and death, so that sooner or later he "runs down" like the wound-up watch with its ended chain; and, as morbidities under this type, there are those various original peculiarities of constitution which make certain individual tenures of life shorter than the average, and kill by way of premature old age of the entire body, or (more generally) by quasi-senile failure of particular organs. On the other hand, as a second great mass of death-causing influence, we see the various interferences which come from outside; acts of mechanical violence for instance, and all the many varieties of external morbific influence which can prevent the individual life from completing its normal course.

As regards cases of the first class—cases where the original conditions of life and development are such as to involve premature death (which in any such case will commonly show itself as a fault in particular lines of hereditary succession)—the problem for preventive medicine to solve is, by what cross-breeding or other treatment we may convert a short-lived and morbid into a long-lived and healthy stock; and this, at least as regards the human race, has, I regret to say, hardly yet become a practical question. But as regards cases of the second class, evidently the various extrinsic interferences which shorten life have to be avoided or resisted, each according to its kind; and here it is that the scientific experimenters of late years have been giving us almost daily increments of knowledge.

Two early instances, vastly important in themselves, though of a comparatively crude kind, I have already mentioned; and I now wish to glance at some illustrations of the immense scope and marvellous exactitude of the newer work.

The invaluable studies of M. Pasteur, beginning in the facts of fermentation and putrefaction, and thence extending to the facts of infectious disease in the animal body, where M. Chauveau's demonstration of the particulate nature of certain contagia came to assist them—they, I say, partly in themselves, and partly in respect of kindred labours which they have excited others to undertake, have introduced us to a new world of strange knowledge. We have learnt, as regards those diseases of the animal body which are due to various kinds of external cause, that probably all the most largely fatal of them (impossible yet to say how many) represent but one single kind of cause, and respectively depend on invasions of the animal body by some rapidly self-multiplying form of alien life. This doctrine, which scientific experiment initiated, has for the last dozen years been extending and confirming itself by further experiment. As soon as the doctrine began to seem probable, science saw that, should it prove true, it must have the most important corollaries. If the cause of an infecting human disease is a self-multiplying germ from the outside world, the habits of that living enemy of ours can be studied in its outside relations. It becomes an object of common natural history; it has biological affinities and analogies. We can cultivate it in test-tubes in our laboratories, as the gardener would cultivate a rose or an apple, and we can see what agrees and what disagrees with its life. And then, as the next and immeasurably most important stage, where nothing but experiment on the living body will help us, we can try whether perhaps any of our modifications of its life have made it of weaker power in relation to the living bodies which it invades, or whether, through our more intimate knowledge of its vital affinities, we can artificially give to bodies which it would invade a partial or complete protection against it. Such, at first blush, were the obvious possibilities of research which the new doctrine of infectious disease suggested to the mind of the pathologist; and never since the profession of medicine has existed had a field of such promise been before it. The promise has not been belied. A host of diseases has been worked at in such lines as I just now indicated, and with many of them important progress has been made.

It would be impossible for me even to name a twentieth part of the investigations which have been more or less successful. As regards some which have most struck me, I pass with but a word—Dr. Klein's investigation of the pneumo-enteritis of swine; Professor Cohn's and Dr. Koch's and Dr. Buchner's respective contributions to the natural history of the anthrax bacillus; Dr. Böllinger's recognition of the microphytic origin of an important cancroid disease of horned cattle; with Dr. Johne's illustration of the inoculability of this disease; the research by Drs. Klebs and Tommasi-Crudeli into the intimate cause of marsh-malaria; and, not least, the demonstration (as it appears to be) which Dr. Grawitz has recently published, that some of the commonest and most innocent of our domestic microphytes can be changed by artificial culture into agents of deadly infectiveness. I pass these and others in order that I may more particularly speak of some which have already shown themselves practically useful; for in respect of some of them the time has already come when abstract scientific knowledge is passing into preventive and curative act.

First, and not in a spirit of national partiality, I will mention the application which M. Pasteur's doctrine has received at the hands of Mr. Lister, with regard to the antiseptic

treatment of wounds, an application which, enforced and illustrated at every turn by Mr. Lister's own eminent skill as an experimentalist, has been confirmation as well as application of the parent doctrine, and the beneficent uses of which, in giving comparative safety to the most formidable surgical operations, and in immensely facilitating recovery from the most dangerous forms of local injury, are recognised—I think I may say by the grateful common consent of our profession in all countries—to be among the highest triumphs of preventive medicine.

Secondly, out of the experimental studies of anthrax—chiefly out of those of Dr. Sanderson and Mr. Duguid in this country, and those of Dr. Buchner in Germany, and M. Toussaint in France—has grown a knowledge of various ways in which the contagion of that dreadful disease can be so mitigated that an animal inoculated with it, instead of incurring almost certain death, shall have no serious illness; and the further knowledge has been gained that the animal submitted to that artificial procedure is thereby more or less secured against subsequent liability to the disease. In other words, with regard to that disease, an infliction which sometimes spreads to man from his domestic animals, and one which in some parts of Europe is of serious consequence to agricultural interests, as well as to animal life, the later experimenters—of whom I may particularly name M. Toussaint, and our countryman, Professor Greenfield—seem to be giving to the animal kingdom, and to the farmers, the same sort of boon as that which Jenner gave to mankind when he taught men the use of vaccination. Quite recently our great leader, M. Pasteur, seems to have made, by new experiments, still further progress in the mitigation of anthrax.

Thirdly, a similar discovery has been made by M. Pasteur, with reference to the contagium of a very fatal poultry disease, known by the name of fowl's cholera; he has learnt to mitigate that contagium to a degree in which, if fowls be inoculated with it, they will suffer no serious ailment, and he has found that fowls so inoculated—or, as he, in honour of Jenner, would say, "fowls so vaccinated"—are proof against future attacks of the disease.

Fourthly, Professor Semmer of Dorpat, through experiments done under his direction by Dr. Krajewski, has made a similar discovery in regard to the infection of septicæmia—has found, namely, that, by treatment like that with which M. Toussaint mitigates the contagium of splenic fever, he can bring the most virulent septic contagium into a state in which it shall be mild enough to serve for harmless inoculations, which inoculations, when performed, shall be protective against future infections.

Finally, in a different direction of experimental work, let me name the recent most admirable research which Dr. Schüller of Greifswald has made, nominally in respect of certain surgical affections of joints, but in reality extending to the inmost pathology and therapeutics of all tubercular and scrofulous affections. A knowledge of the fatal infectiveness of crude tubercular matter had been given (as I before said) by Villemin and those who followed him, and Professor Klebs, four years ago, declared the infective quality to be due to the presence of a microphyte (micrococcus), which he had succeeded in separating from the rest of the matter by successive acts of cultivation in fluids of inorganic origin. Dr. Schüller solidly settles, and widely extends, that teaching. According to his, apparently quite unquestionable, observations and experiments, the micrococcus which characterises tubercle characterises also certain affections popularly called "scrofulous"—namely, "scrofulous" synovial membrane, "scrofulous" lymph-glands, and lupus; so that these diseases may be defined as essentially tubercular, and that inoculation with matter from any of them, or with a cultivation-fluid in which the micrococcus from any of them has been cultivated, will infect with general tuberculosis. The rapid multiplication of the tubercle-micrococcus in the blood and tissues of any inoculated animal can be verified both by microscopical observation and by inoculative experiment; and an extremely interesting part of the research in explanation of certain of our human joint-diseases is the demonstration that if in the inoculated animal a joint is experimentally injured, that joint at once becomes a place of preferential resort to the micrococcus which is multiplying in the blood, and becomes consequently a special or exclusive seat of characteristic tubercular changes. Even thus far the practical interest of Dr. Schüller's book is such as it would not be easy to overstate, but still greater interest attaches to the last chapter of the book, in which, confidently resting on the pathological facts which I have quoted, he makes proposals for the treatment of tubercle on the basis of its microphytic origin, and shows the successful result of such treatment as he has hitherto tried from that basis on animals artificially infected by him.

I venture to say that in the records of human industry it would be impossible to point to work of more promise to the world than these various contributions to the knowledge of disease, and of its cure and prevention; and they are contributions which from the nature of the case have come, and could only have come, from the performance of experiments on living animals.

At this most productive epoch in the growth of medical science our English studies have been interrupted. An Act of Parliament, passed five years ago under the title of the Cruelty to Animals Act, has made it difficult or impossible for scientific observers any longer to follow in this country any such courses of experiment as those which of late years, at the cost of relatively insignificant quantities of brute suffering, have tended to create an infinity of new resources of relief for the sufferings both of brute and man. The Act does not in express terms interdict all performance of such courses of experiment: it nominally allows them to be done under a variety of limited licences which may be granted by a Principal Secretary of State; but the limitations under which these licences are granted, and the trouble, delay, and friction which necessarily to some extent, and, in fact, often to an intolerable extent, attend the obtaining of any one of them, are practically little better than prohibition.

The Act apparently contemplates, as the chief subjects of its operation, an imaginary class of unqualified persons, who, with no legitimate relation to scientific research, would, under pretence of such research, torture, and (it is supposed) take pleasure in torturing live animals; and against this devilish class of persons the Act is very indulgently framed; for instead of expressly refusing licence to unqualified persons, and perhaps hinting to such of them as would do wilful cruelty under pretence of study that the lash and the treadmill are for such scoundrels—instead of this, I say, the Act virtually confounds together that imaginary class of unqualified and cruel persons, and, on the other hand, our professional class of *bonâ fide* scientific investigators, on whom the progress of medicine depends, and whose names are sufficient security for their conduct. What is counted good for the one class is also counted good for the other. The law will trust no licensed experimenter farther than it can provide for his being minutely watched and regulated by the Secretary of State; and in respect of the details of experimental procedure, the supervision of that high political officer is substituted for the discretion and conscience of the scientific investigator.

Consider for a moment what this means in regard of the members of our profession whom it affects. Contrast with it the almost unbounded trust with which the world, from time immemorial, has regarded the character of our profession. Consider the relation of inmost confidence in which members of our profession in every corner of the kingdom are admitted to share in the sanctities and tendernesses of domestic life. Consider our immense daily responsibilities of human life and death. Consider that there is not a member of our profession to whom the law does not allow discretion that in certain difficulties of childbirth he shall judge whether he shall kill the child to save the mother. And, in contrast with all this, is it to be seriously maintained that society cannot trust us with dogs and cats: that our foremost workers (for it is essentially they who are affected) cannot be trusted to behave honestly towards their brute fellow-creatures unless they be regulated and inspected under a special law, in much the same prevenient spirit as if they were prostitutes under the Contagious Diseases Act?

I have reason to believe that, if that Act continues on the statute-book, one of two results will follow. Experiments, indispensably necessary for the growth of medical science in relation to the cure and prevention of disease, will cease, or almost cease, to be done in this country, or, as the alternative to this, persons who desire to advance the science of their profession will be tempted to clandestinely ignore the law and to run their chance, if the worst comes to the worst, of having to try conclusions with the common informer.

Let me illustrate this by two personal references: I have already mentioned Professor Lister as an experimenter whose name is now classical wherever science has reached, and whose work has been of signal advantage to mankind.

Last autumn Mr. Lister wished to do some experiments in extension of the particular branch of knowledge with which his name is identified, and at a point which he considered of extreme importance in surgical pathology. He found he must either abandon his investigation, or must conduct it in a foreign country, and, in his zeal for science, he chose the latter course. His experiments (which had to be on large animals) were done at the Veterinary College of Toulouse; and in stating this fact in a letter, from which I quote, Mr. Lister added that "even with reference to small animals, the working of the Act is so vexatious as to be practically prohibitory of experiments by a private practitioner like myself, unless he chooses to incur the risk of transgressing the law." A second name which I have mentioned is that of Professor Greenfield, who has so highly distinguished himself in developing, by means of experiments, the preventive medicine of splenic fever. Dr. Greenfield, in order to perform his inoculation experiments, had of course to become a licence-holder under the Act; and his experience of the hindrances which attach to that position is expressed to me in the following terms:—"It is my deliberate conviction, as a result of my experience, that these hindrances and obstacles are so numerous and so great as to constitute a most serious bar to the investigation of disease, and even of such remedial measures as would by common consent be for the direct benefit of the animals experimented upon. When to this is added all the annoyance and opprobrium which are the lot of investigators, it is to be wondered at that anyone should submit to be licensed." Dr. Greenfield's experimental operations consisted only in inoculating the virus of animal diseases, and he says: "I have not been engaged in other investigations, for the simple reason that with the present restrictions and the difficulty in obtaining a licence, I regard it as almost hopeless to attempt any useful work of the kind in this country."

As I feel sure that the Act must at no distant time be reconsidered by the Legislature, and as I also very strongly feel that quite apart from any question of legal enactments there is the question of moral right or wrong to be considered in the matter, I would beg you to allow me to make my own public confession of faith (from which I dare say yours will not much differ) in that extremely important matter of controversy.

The question being whether medical science can rightly use living animals as subjects for experiments which may be painful, and even, in exceptional cases, very painful to them, the answer may be sought in either of two directions: 1. What says the voice of the experimenter's own conscience? and 2. What says the standard of common contemporary conduct in analogous cases?

As regards the first, if I may take the liberty of expressing my own feeling, I would say this: I do not in any degree regard it as matter of indifference that, in certain cases, by my own hand, or by that of some one acting for me, I must inflict death or pain on any living thing. I, on the contrary, think of it with true compunction; but I think of it as good or bad according to the end which it subserves. Where I see my way to acquire, at that painful cost, the kind of exact knowledge which, either in itself or in contribution to our common stock, will promote the cure or prevention of disease in the race to which the animal belongs, or in the animal kingdom generally, or (above all) in the race of man, I no more flinch from what then seems to me a professional duty, though a painful one, than I would, in the days before chloroform, have shrunk from the cries of a child whom I had to cut for stone. If, in a case of the latter sort, the surgeon nerves himself to his work by the conviction of an indispensable usefulness in what he has to do, so does the pathologist in his, and surely in a much larger sense. The agitated parent of the child might sometimes be tempted to say, "Forbear giving this cruel pain; let the poor little sufferer die"; but the surgeon's reply would have comforted her. And so with the physiological experimenter, except that he, instead of looking at one individual life to be saved, is looking at a race or at many races, and reflects how, in respect of some grievous physical misery, the whole of them, in all their multitudinous successions, may be redeemed through the suffering of the few. This is my personal view of the abstract right or wrong in the question. I state it because, in matters of right and wrong, no man ought to shelter himself behind authority. I believe I may add that if it, or something very like it, had not for centuries been the general view of the medical profession, our professional knowledge would probably be standing in this present age about where it stood in the days of the Plantagenets. Of Harvey and Hunter and Bell, we well know that such was the view on which they acted in rendering their immortal services to mankind; and I am not aware that any man, whose opinion really counts in matters of medical science, would express any material dissent from it.

The second standard to which I referred was that of the common conduct of men in *analogous* cases. I pointedly say "analogous," rather than "similar," because common life does not in fact give cases which, properly speaking, are "similar" to ours. But what, I ask, is the common *principle* of behaviour of civilised man towards the so-called lower animals? He in every respect subordinates their lives to his own. If he thinks he can get an advantage to himself by killing or painfully mutilating an animal, he does so with apparently no hesitation. See, for one instance, the sexual mutilations which are inflicted on all but a small minority of most kinds of domestic animals, and, as regards some kinds, on many of the females.

Thus, either way, whether I look to what I may call the general conscience of the medical profession, or look to the principles by which men in general govern their conduct towards the brute-creation, nowhere do I see fair ground on which exception from outside can be taken to a limited, a strictly economical, use of animal life for purposes of scientific experiment.

And I protest against a standard of right and wrong being fixed for us on grounds which are merely sentimental. In certain circles of society, at the present time, æsthetics count for all in all; and an emotion against what they are pleased to call "vivisection" answers their purpose of the moment as well as any other little emotion. With such sections of society, our profession cannot seriously argue. Our own verb of life is *ἐργάζεσθαι*, not *αἰσθάνεσθαι*. We have to think of usefulness to man. And to us, according to our standard of right and wrong, perhaps those lackadaisical æsthetics may seem but a feeble form of sensuality.

Address
ON
MATERIA MEDICA AND PHARMACOLOGY.

Delivered at the Meeting of the International Medical Congress.

BY PROFESSOR FRASER, F.R.S.

GENTLEMEN,—It is clearly appreciated by all who are actively interested in the progress of pharmacology, that it is essentially an experimental science, and that its advancement can be obtained only by the application of the experimental method. This method, indeed, is as old as science itself; and, although it has been the instrument by which all true progress in medicine has been achieved, during a long period in the history of medicine it had been distorted by the importation of metaphysical fantasies, and dominated by the contending theories of the schools. From data of the most insufficient description, theories were evolved of wide application, and in no department of medical knowledge was this more strikingly manifested than in pharmacology and therapeutics.

Fanciful resemblances between medicines and pathological products or normal structures were considered sufficient to explain the effects of the medicines, or to indicate the conditions of disease in which they should be applied. The resemblance between the white spots on the leaves of pulmonaria officinalis and the morbid product tubercle led to the use of this plant in diseases of the lungs; the colour of the common carrot formed an indication for the administration of the carrot in jaundice; and the heart-like shape of the fruit of limocarpus anacardium, and the reniform shape of the fruit of anacardium occidentale were considered sufficient characters for the administration of the one in diseases of the heart, and of the other in diseases of the kidneys. The doctrine of "Signatures," which prevailed for many years, and was accountable for these and many other

absurdities, now mainly possesses the interest of affording an example of the ever-existing desire for guiding principles in the application of remedies—a desire which found satisfaction also in the systems of Paracelsus, Stahl, Brown, and Rasori.

These and all other systems that have been propounded erred in the insufficiency of the facts on which they were constructed. The knowledge of the age in which each of them was introduced lent for a time a plausible support in their favour, but it was insufficient to disprove them. Each in turn, however, was discarded as knowledge advanced, and supplied the data required for refutation.

This knowledge was the fruit of observation. In its crudest form, observation restricted itself to the noting of the symptoms of disease, and of the changes produced in those symptoms by treatment. It is exemplified in the writings of Hippocrates, Theophrastus, Celsus, and Aretæus; and, in the present day, in the records of so-called experience. The general symptoms of a disease were ascertained, the changes produced by the administration of remedies were observed, and the result was preserved as a guide for the treatment of other cases. An experiment, in fact, was performed; but the experiment was one in which the conditions are complex, and the causes of fallacy numerous.

In the early history of medicine, when the normal conditions of life were unknown, and when the conceptions of disease were, in most cases, mere fancies of the imagination, erroneous doctrines and applications inevitably resulted from the restricted employment of this method of observation. Even at the present time its employment is surrounded by difficulties and fallacies of a similar description. Notwithstanding the remarkable advancements in biological science that have followed the application of the methods of research inaugurated by Bacon and Galileo, the normal composition and functions of the component parts of body, and much less their abnormal conditions in disease, are in very few, if in any, instances thoroughly understood. The labour of years has resulted in proving but too distinctly their complexity, and perhaps, above all, in making it apparent that much is unknown. The mere separation of the symptoms of disease from the mental or moral reactions of the individual is even, in many instances, a matter of difficulty. It is far from being an easy task to estimate the effects produced upon the patient by the remedy that has been administered, not only on account of the nature of the problem, but also because of the tendency, too often irresistible, on the part of the observer to confound sequences with consequences. Experience has, in all ages, supplied proofs that the aphorism, *Sublatâ causâ, tollitur effectus*, is in the art of medicine little more than a disappointing mockery.

That experimental method which deals with problems of so great complexity as those with which crude observation is concerned, having failed to produce results which satisfied the generous aspirations that have at all times formed the incentive to medical investigation, a new development was fortunately given to the study of the effects of remedies, by the introduction of an experimental method in which the conditions are more simple and controllable than in those forming the basis of so-called experience. The introduction of this method is due to Bichat, and by its subsequent applications by Magendie, pharmacology was originated as the science we now recognise. Bichat represents a transition state, in which metaphysical conceptions were mingled with the results of experiment. Magendie more clearly recognised the danger of adopting theories in the existing imperfections of knowledge, and devoted himself to the supplementing of these imperfections by experiments on living animals. The advantages of such experiments he early illustrated by his investigation on the upas poison, and, afterwards, by a research on the then newly discovered alkaloid, strychnia. The results of these researches enabled him to lay the foundation for the doctrine that remedies exert their actions upon special structures; a doctrine which was afterwards further developed and illustrated in the classic researches of his pupil, Claude Bernard.

Magendie's epoch-making investigations inaugurated the present century. The value of his method was quickly appreciated, and adopted in Germany, Italy, and Britain. It, however, necessitated experiments on living animals, and it is curious to observe that, even in his day, the embarrassments which sentimental opposition has succeeded in raising to the progress of pharmacology in this country were not unknown in France. To this subject, Claude Bernard makes some reference in the biographical notice of Magendie, which forms the introductory chapter of his work on the "Effects of Poisonous and Medicinal Substances." He there furnishes us with an argument against the views of those who oppose experiments on living animals, which has the special interest of having been written, apparently, chiefly in defence of experimenters in this country; where, as he rightly supposes, prejudices are most strongly developed and stated. As all science must be founded on experiment, so the science of life, he remarks, necessitates vivisection, because the phenomena of life occur only in living beings; but experiments on living beings, governed and inspired by a true scientific spirit, do not deserve the reproach of cruelty, any more than the vivisections of the surgeon prompted by the idea of saving the life of his patient. On this subject, however, I propose afterwards to make some further remarks, but before doing so I would briefly refer to the results that have already been obtained by the experimental study of pharmacology during the present century.

By the experimental method I do not refer to that which is associated with the name of Hippocrates, which searches for truth by means of experiments of a complicated description, in which the data are in a great measure unknown, and almost entirely beyond the control of the experimenter. It would, at the same time, be impossible to assert that by observation of the effects of remedies upon patients much advantage and many valuable results have not been gained. A large number of remedies have been introduced, even although their physiological action was entirely unknown, and several of these yet retain their position as valuable means of treating disease. On the other hand, the greatest number of them have certainly been discarded as knowledge advanced, and not a few retain their position simply because other and more trustworthy reasons for their employment have been brought to light. This light has been derived from the experimental method, which while it does not neglect crude observations, endeavours as far as possible to simplify the conditions of the experiment, by using as the subjects of experiment animals in whom the conditions admit of being controlled. A certainty is thus given to the results which could not otherwise be obtained, and applications to disease acquire a prominence which is in striking contrast to the ephemeral and fleeting opinions which are derived from the empirical method. Magendie's research on strychnia may be cited as an illustration of this. He demonstrated the action of this substance upon the spinal cord by experiments on the lower animals so thoroughly, that subsequent investigations have added but little to his results. He also recognised the advantage that might be expected from its administration in disease, and proposed its application in cases of paralysis. This application was first effected by Fouquier, and since that time strychnia has retained its position as a remedy for paralysis.

Since that time, also, the method has been applied to the investigation of a large number of active substances, with results of the highest importance to humanity. Rational explanations have been discovered for previously-observed therapeutic facts, and it has become possible to apply many known remedies with judgment and confidence. Previously unknown therapeutical actions have been brought to light, and symptoms of disease, which before were beyond control, can now be alleviated by the production of definite remedial actions.

I may illustrate the value of the results obtained by this method by considering for one moment the action of digitalis and of anæsthetics.

The former substance was introduced into practice by Drs. Cullen and W. Thomic. Towards the end of the last century, and therefore answering to the inauguration of the experimental method, and to the foundation of pharmacology as a science, it was introduced as a remedy for dropsy; and on the applications which were made of it for the treatment of that disease, a slowing action upon the cardiac movements was observed, which led to its acquiring the reputation of a cardiac sedative. Numerous observations were made on man by the originators of its application, by Dr. Sanders and by many other physicians, in which special attention was paid to its effects upon the circulation, but no further light was thrown upon its remarkable properties, with the unimportant exception that in some cases it was found to excite the circulation. It was not until the experimental method was applied in its investigation, in the first instance by Claude Bernard, and subsequently by Dybkowsky, Pelikon, Meyer, Boehm, and Schmiedeberg, that the true action of digitalis upon the circulation was discovered. It was shown that the effects upon the circulation were not in any exact sense

sedative, but, on the contrary, stimulant and tonic, rendering the action of the heart more powerful, and increasing the tension in the bloodvessels. The indications for its use in disease were thereby revolutionised, and at the same time rendered more exact, and the striking benefits which were now afforded by the use of this substance in most diseases were made available to humanity.

The introduction of anæsthetics into medical practice has certainly produced more benefit than that of any class of substances. The insensibility which they produce is a condition which can be readily established by the most crude method of experiment, as it requires merely the exhibition of the substance and the observation of the effect; and this simple process of investigation is that by which their introduction was effected. Following upon this introduction and the wide extension of their employment, however, it was soon found that insensibility was not their only effect. They produced insensibility, but they also produced other actions, which assumed a grave importance, as they were occasionally sufficient to destroy life. The nature of these additional actions became, therefore, a matter of interest, for upon them apparently depended many questions governing the indications for the use of anæsthetics, and the treatment which should be adopted in order to avert or counteract their dangerous effects. No sufficient light, however, could be thrown upon them by the simple experiments which were sufficient to prove that these substances produce insensibility. By observing the phenomena presented by a patient in the anæsthetic condition, the mechanism by which the dangerous effects were caused could not be revealed. It could not even be determined whether death were produced by an action upon the brain or upon the heart, or upon the respiration. The necessity for extending the investigation of their action to lower animals, in whom the experimental conditions could be controlled and varied, became obvious; and the researches which have already been undertaken by Hermann, Bert, Ferguson, Contes, and McKendrick have furnished much information with regard to those difficulties, that could not be solved by mere observation of effects in human beings. They have provided indications for forming an opinion of the relative dangerousness of many anæsthetics, of the class of cases in which each should be specially avoided, and of the means by which their dangerous actions may best be counteracted; and it is needless to remark that, if results of such importance can be obtained by no other means than by experiments upon the lower animals, the performance of such experiments is an imperative duty.

Pharmacology, the science of remedies, must be founded upon experiments performed upon living animals. An Act has been passed imposing restrictions of the most harassing description upon those who are engaged in such research. Only the other day I experienced the mortification of being refused a licence for performing a few experiments on rabbits and frogs with a reputed poison. If this be an active substance it is impossible to predict what advantages might be gained from its use in the treatment of disease. That the infliction of pain would be only trivial will be apparent when I state that the only operation for which permission was requested was the subcutaneous injection of the poison. If this method of research be denied to us, what means are we to adopt to increase the resources of our art?

THE INTERNATIONAL MEDICAL CONGRESS.

SECTION II.—PHYSIOLOGY.

IT was, we venture to think, a wise decision on the part of the officers of the Physiological Section of the International Congress to discourage the reading of isolated papers, and to devote the greater part of the time at the disposal of the section to discussions on subjects of primary importance; for it is the special function of academies and societies to listen to and to study the detailed results of scientific work, whilst in such meetings as those of the Congress the fortuitous assemblage of men of all countries offers opportunities as rare as they are valuable of eliciting opinions on wide questions, which in some cases have been looked at from different points of view because of the national partisanship which tends to obtrude itself even into the treatment of scientific questions.

When we mention that in addition to the general body of English physiological workers, such men as Donders, Brown-Séquard, Chauveau, Goltz, Kronecker, Lovèn, Panum, Lépine, François-Franck, Wood, and many others well-known to European science attended the meetings, and in many cases took a very active part in the discussions of the section, the reader will be prepared to believe that the work done was possessed of real interest, and that the debates are not likely to be barren of useful results. To some of the more interesting of these debates we desire to direct attention in the present article.

After the President had opened the work of the section by the learned discourse which has already appeared in our columns, and which was not intended as a vainglorious recital of the achievements of our forefathers, but rather as an encouragement to the young English physiological school to assert for itself a position worthy of its high descent, an important discussion on the Localisation of the Functions of the Cerebral Convolutions was opened by Professor Goltz of Strasburg—a discussion which, whether we consider the interest of the subject to the physician, as well as to the physiologist, or that it afforded an opportunity for Professor Goltz on the one hand, and Professor Ferrier on the other, to bring before the meeting their own special, and, to a certain extent, widely opposed views, must be looked upon as first, not only in point of time, but first also in importance, in interest, and in probable good to science, of the numerous discussions held in the section.

Professor Goltz, who spoke in German and who, by the remarkable clearness of his discourse and the distinct and measured tones in which it was pronounced, set an example of the mode in which to address an international assembly, commenced by a brief historical reference to the earlier researches of Hitzig and Fritsch, of Ferrier and of Munk, which had led those observers to localise certain motor and certain sensory functions in particular regions on the surface of the hemispheres. Convinced that the method of stimulation which had been chiefly (though it is true not alone) practised was not capable of throwing full light upon the question of localisation, Professor Goltz commenced, six years ago, experiments in which he sought to determine what degree of truth attached to the assertion of Flourens, that large parts of the brain of living animals may be removed without there resulting any apparent loss of cerebral function. The method which Professor Goltz first employed consisted, as he reminded the section, of exposing the surface of the brain, and then washing away large portions of its substance by subjecting it to the action of a powerful stream of water. It was found that the statement of Flourens could not be accepted without reservation. After the destruction in the way indicated of large parts of one side of the brain, there results, for instance, hemiplegia, which is, however, not permanent but transient, with cross blindness. After destruction of large parts of both hemispheres by the same method, Goltz found that there was produced a permanent affection of the senses, which were observed to be dulled to an extraordinary degree, without being, however, lost. During the last two years, Professor Goltz, abandoning his earlier "washing-away" method, has destroyed limited parts of the cerebral surface by means of circular drills with cutting and tearing edges, which, when rapidly rotated, destroy the part of the brain in which they are placed. By removing large parts of the skull cap, and using such instruments, Professor Goltz has produced either very localised or very extensive lesions, of which he has studied the results; the dog being invariably the animal chosen for experiment. The results differed according as the anterior or posterior halves of the upper surface of the convolutions were destroyed. Without referring in detail to the various experiments of Professor Goltz, we have to draw special attention to his remarkable assertion that in the dog, after removal by his procedure of the greater part of the grey matter of the hemispheres, of the motor areas, and of the sensory areas, the animal may recover and live for long periods of time, without exhibiting any definite paralysis whatever. Such a dog, according to Professor Goltz, can see, taste, smell, feel, yet all these senses are dulled. It can move, yet its movements are clumsy. It has none of the paralysis of movement, and none of the losses of special senses, which the doctrines of Ferrier and of Munk would lead us to predict. But is the creature entirely normal? No, as Professor Goltz pro-

ceeded to state. Though the animal is not stone blind, and can see, hear, and feel in a certain manner, yet perception is greatly interfered with and the intellectual functions are weakened; the dog is in the condition of one demented, and many of its instincts are found to be perverted.

Professor Ferrier succeeded Professor Goltz, and stated *in limine* that he was prepared to accept the facts of so eminent an observer, though he rejected his conclusions. Until it is proved that the phenomena observed by Professor Goltz are dependent upon the grey matter of the hemispheres, it may be assumed that they are phenomena which require, in the case of the dog, merely the integrity of the great basal ganglion. He called the attention of the section to the fact that Professor Goltz's experiments had been performed entirely on dogs, and he deprecated the drawing of general conclusions from the experiments performed upon one animal species. Without disputing the facts described by Professor Goltz, he would bring before the section other facts observed by himself in the case of the monkey, and which entirely corroborated his own views in reference to cerebral localisation. Professor Ferrier pointed out that by Professor Goltz's method a simple and definite lesion could not be established. During the last two years, however, he, in association with Professor Gerald Yeo, had employed the galvano-cautery for the establishment of perfectly definite lesions, and by using the antiseptic method of treating the wound had succeeded in eliminating all chances of inflammation and obtaining a perfect recovery from the actual operative procedure in almost every case. He had thus been able to meet the objections which had been advanced to his earlier experiments—to wit, that he studied for too short a time the effects of the lesions produced, and he had been able to observe that definite lesions of localised regions of the surface of the monkey's brain led to definite and persistent paralyses of motion or losses of special senses. Professor Ferrier then referred in detail to several of his experiments on monkeys, pointing out that in two of the cases where injuries of motor areas had been inflicted, not only was there no recovery, but that when, some months afterwards, post-mortem examinations were made, there were found descending degenerations affecting the crus cerebri, the pons, and the spinal cord. In a case where a lesion was inflicted upon both occipital lobes and angular gyri, affecting the supposed centres for vision, there had resulted no paralysis of motion, no loss of smell or hearing or taste, but the animal became stone blind; its pupils became widely dilated and fixed, and atrophy of the optic nerve ensued.

The interest attaching to the discussion on localisation was greatly enhanced by the fact that whilst Professor Goltz had brought one of his dogs from Strasburg, Professor Ferrier was willing to exhibit two monkeys which he had operated upon some months previously, and in one of which he had procured definite motor paralysis and in the other permanent and absolute deafness. On the afternoon of Thursday the section, joined by such visitors as Professors Charcot and Virchow, adjourned to the Physiological Laboratory of King's College. They had the opportunity of examining the dog in which Professor Goltz asserted that he had removed the greater part of both hemispheres, including all the supposed motor and sensory areas. That the operative procedures to which the animal had been subjected had been extensive was quite obvious from an examination of its skull, large gaps in the continuity of the upper and external walls of which were felt. Saving some clumsiness in its movements, this dog exhibited singularly little which would distinguish it from the normal; it appeared possessed of considerable intelligence, and certainly did not suggest to the onlookers that it was a dog demented. In startling contrast to the dog were two monkeys exhibited by Professor Ferrier. One of them had been operated upon in the middle of January, the left motor area having been destroyed. There had resulted from the operation right sided hemiplegia, with conjugate deviation of eyes and of head. Facial paralysis was at first well marked, but ceased after a fortnight. From the first there had been paralysis of the right leg, though the animal was able to lift it up. The arm it had never been able to use. Lately, rigidity of the muscles of the paralysed limbs had been coming on. The other monkey, as a consequence of paralysis of its auditory centres, was apparently entirely unaffected by loud noises, as by the firing of percussion caps in close proximity to its head.

What conclusions, it will be asked, are to be drawn from these singularly discordant experiments of Professors Goltz and Ferrier? As a result of their statements and their demonstrations, are we merely to conclude that the brain of the monkey is constituted differently from that of the dog, and that experiments performed upon the brain of one animal throw no light upon the functions of the brain of the other? Until we know the exact conditions of the experiments in the two cases it will be impossible to analyse the results obtained, which may be explicable rather by the extent or depth of the lesions inflicted in the two cases than by the hypothesis of a different anatomical conformation. Fortunately the two eminent experimenters whose graphic accounts of their work had been listened to with marked interest by the section determined upon a line of conduct destined to throw great light upon their experimental procedures. On one of the days following the discussion and demonstration on cerebral localisation Professor Goltz's dog and Professor Ferrier's monkey with motor paralysis were deeply anæsthetised, and then killed. The brains were removed, and were handed to a committee composed of Drs. Klein, Langley, Purser, and Schäfer, who have been requested to make an elaborate anatomical and histological examination, with a view to localising the extent of the lesions inflicted by the experimenters. It may be remarked, however, that when the brains which had been removed from the two animals were exhibited in the Physiological Section, it appeared to the onlookers that the lesion in Professor Ferrier's case exactly corresponded to that which he had predicted; whilst, unquestionably, in Professor Goltz's experiment the experimenter had failed in removing considerable portions of the grey matter of the convolutions, including parts at least held by Ferrier to be the seat of motor centres.

The second debate was opened on Friday by M. François Franck, on the Mechanism by which the Heart-beat is Regulated and Maintained. M. Franck, we are informed, was unaware until the previous day of the duty which he was called upon to discharge in opening this debate, yet it would have been difficult to imagine any duty more efficiently performed. M. Franck commenced by giving an account of our present views of the innervation of the heart, examining with great clearness the evidence which exists as to the path followed by inhibitory and accelerating fibres in their course towards the heart, dwelling particularly on the evidence derivable from comparative anatomy, which confirms the observations made long ago by Augustus Waller, by the aid of his degeneration method, and which proved that the inhibitory fibres of the vagus are derived from the spinal accessory. M. Franck next dwelt upon the question, Is the rhythmical contractility of the heart due to properties inherent in its muscular tissues? After referring to the first observations on the rhythmical contractions of voluntary muscle made by Brown-Séquard in 1849 and 1853, and by Schiff in 1863, M. François Franck drew special attention to the experiments made in Ludwig's laboratory by Merunowicz, and other observers, and which show that the isolated apex of the frog's heart, when subjected to the action of defibrinated blood or serum, beats rhythmically, and to the more recent observations on the same subject by Bernstein, Luchsinger, and by Gaskell.

Dr. Gaskell was the first to speak upon the subject introduced by M. François Franck, and he entertained the section with the account of recent studies which he has carried out by the aid of new methods, and which appear to him to throw light upon the nature and cause of the natural rhythm of the heart, the nature of inhibition, and the mode in which the vagus inhibits the heart. It would be well-nigh hopeless to expect our readers to follow an account of Dr. Gaskell's most interesting and suggestive work without the aid of drawings illustrating his apparatus, and without copies of the tracings which he obtained by its aid. We may merely refer to one of the most important conclusions to which he inclined in his address to the section—viz., that the inhibitory action of the vagus is to be explained by its direct action upon the muscular tissue of the heart, and not upon an intermediate nervous apparatus,—the nerve probably possessing the power of regulating the transformations of matter in the muscular substance, so as to affect the readiness with which these fibres are influenced by impulses reaching them from the motor centres. According to this view, the vagus would be the great trophic nerve of the heart.

Space will not permit of our referring to the observations of Dr. Brown-Séquard, of Professor Kronecker or of Dr. Carpenter, who called the attention of the section to the interest attaching to the study of the movements of the heart of ascidians.

After the conclusion of this debate Professor Wood of Philadelphia opened a debate on Animal Heat, which, unfortunately, could not be continued for lack of time, and in which Professor Burdon Sanderson and Professor Kronecker alone took part. Professor Wood described in an interesting manner his observations made with the aid of calorimetrical methods, in reference to the influence of the great nerve centres on the production and regulation of heat, and then considered the nature of fever, which he recognised to be a process in which both the mechanisms of heat production and heat regulation were at fault. The remarks of Dr. Burdon Sanderson had reference solely to the errors which had hitherto been inherent to observations with the calorimeter, and to the remarkable improvements lately introduced into calorimetrical methods by M. D'Arsonville, who places his calorimeter in chambers of constant temperature and who employs the graphic method to record continuously the changes in the volume of the water of the calorimeter, which correspond to the changes in its temperature. Professor Kronecker recalled the observations made by him and by a pupil with the aid of his maximum registering thermometers, and which proved how great an influence in the production of animal heat was exerted by the secreting apparatus situated in the walls of the alimentary canal.

The meeting of the section on Monday was opened by a discussion on the Microscopical Appearances of Striped Muscle during Rest and Contraction. Professor Rutherford of Edinburgh, who opened the discussion, gave a *résumé* of the views hitherto held on this difficult question, and then detailed the results of his own observations on the muscle of the crab prepared by a new method. He entirely supports the theory expressed by Kölliker, that the sarcous substance essentially consists of fibrils united by a small amount of interstitial material. He finds eosine and aniline-blue of much service in differentiating the several parts of the fibrils, the sarcous elements and so-called Krause's membrane being readily stained by them. The sarcous elements are shaped like minute dumb-bells, with a slight swelling in the middle of the shaft, in the position of Hensen's stripe. The thin dim line in the clear stripe first described by Dobie of Chester, and commonly named Krause's membrane, is due to a row of globules, as Busk and Huxley first indicated. The clear as well as the dim segments of the fibrils shorten during contraction. The refractile material of the sarcous elements moves towards their ends, leaving the shafts clear. The shafts of the shortened sarcous elements then become the clear stripe, while the original clear stripe is rendered dim by the transference of the refractile material of the sarcous elements to the immediate neighbourhood of Dobie's line. This explains the "reversal of the stripes" in contracted muscle. The different stages of the transition may be clearly traced after staining with eosine or aniline blue. A series of preparations was shown in illustration and support of these statements.

Dr. Haycraft of Sir Josiah Mason's College, Birmingham, maintained that the fibrils of striped muscle are homogeneous, and that the stripes are entirely owing to alternate convexities and concavities, which with the stripes disappear while the fibrils are stretched and their calibre rendered uniform. He had imitated the stripes of muscles by producing concavities and convexities on a glass rod, immersed in Canada balsam. He maintained that the fibrils are stained uniformly by eosine, but that the thin stripe appears more deeply stained because it occasions convergence of the coloured rays.

After some remarks by Dr. Carpenter and Dr. Klein, Professor Rutherford replied that it is impossible to regard the fibrils as homogeneous; for a very diluted solution of eosine, aniline-blue or picrocarmine scarcely stains at all the substance of the clear stripe, while it stains the sarcous elements and globules of Dobie's line deeply. But even when dyes are not employed it is not difficult to see that the substance of the dim is more refractile than that of the clear stripe, and has a pearly shimmer which the latter has not. When the clear stripe is darkened by altering the focus, it never acquires the pearly appearance of the real dim stripe. Dr. Haycraft's statement that the stripes disappear when the fibrils are extended is in direct contradiction to M. Ranvier, who states that it is by stretching that the stripes are rendered most evident. Dr. Rutherford did not deny that, as in a red blood-corpuscle, the convergent rays form the convex margin and the divergent rays form the concave centre cannot be focussed by a lens at the same moment. When one is in focus and appears light, the other is out of focus and appears dim; so in muscle curvature produces similar effects, but these are merely superadded to the far more important effects of difference in structure and chemical composition in the course of the fibrils which Dr. Haycraft singularly enough ignored, notwithstanding clear evidence to the contrary.

The last discussion, on the Vaso-Dilator Nerves, was opened on Tuesday morning by Professor Morat, who in the course of his remarks drew attention to researches made by Professor Dastre and himself, which have led them to the very interesting conclusion that certain of the vaso-dilator fibres of the head and neck, after issuing from the spinal cord, make their way primarily into sympathetic trunks. The French observers discovered that on stimulating the distal end of the combined vagus and sympathetic nerves in the neck of the dog there results remarkable dilatation of the mucous membranes lining the lips, covering the hard palate, and lining the nasal cavities; this dilatation is unilateral, and on the side opposite to that of the nerve stimulated. By dividing the vagus very high up, and in other cases the sympathetic, MM. Dastre and Morat were able to discover that the effect which they had observed was due to a stimulation of fibres contained in the sympathetic, and subsequently that these fibres were contained in the rami communicantes of the second and third dorsal nerves, into which they passed through the intermediation of the anterior roots of the corresponding spinal nerves.

This debate on the innervation of blood veins was taken part in by Professors Brown-Séquard, Goltz, Lépine, Dastre, and Dr. Roy. The latter distinguished young physiologist drew attention to his recent researches on the circulation through the kidney and spleen, made with the aid of apparatus which is essentially constructed on the principle of the plethysmograph. In the case of these two organs, Dr. Roy has failed to find any evidence of the existence of vaso-dilator nerves. We may merely refer to the remarkable and hitherto unsuspected fact which Dr. Roy has discovered—viz., that the spleen is the seat of perfectly rhythmical contractions and dilatations, and that in the case of the kidney effects are produced upon the renal circulation by drugs introduced into the blood, even after division of all the nerves going to the organs.

The space at our disposal has only permitted of our referring but too briefly to some of the most important debates conducted in the Physiological Section. We have been compelled to omit here all mention of interesting communications by Drs. Klein, Pavy, Arthur Ransome, Bocci, and other scientific members present. We must, however, refer to the fact that daily demonstrations of physiological instruments took place, and that on Tuesday afternoon, after the proper work of the section had concluded, a large number of the members adjourned to University College, where they had an opportunity of studying the admirable arrangements of the new Jodrell laboratory, and of witnessing an interesting series of demonstrations by Professor Burdon-Sanderson, illustrating his researches on Dionea, and some electrical experiments by Professor Lovèn, who had not only favoured the Congress by his presence, but had brought for the inspection of its members a very admirable modification of Lipmann's electrometer, and a pair of interesting mercury telephones.

Thus ended the scientific work of a section of the International Congress which, at least as much as any section devoted to directly practical ends, tended by its labours to advance the progress of medicine. The success of this section, which could not have been achieved but for the co-operation of the numerous foreign physiologists who joined its ranks and contributed to its debates, testifies to the respect and appreciation in which our new English physiological school is held in foreign countries. We must, however, not forget that that school suffers under disabilities and is hindered by opposition which threatens its very existence. The physiologists during the late Congress appealed to the sympathy of their colleagues of the medical profession, and that sympathy was freely and ungrudgingly given them. We trust, however, that one of the fruits of the Congress will be an agitation carried on by the medical profession in this country and abroad which shall, by educating the people, succeed in sweeping away a legislative enactment which is a blot upon the statute book, a hindrance to the progress of science, and therefore opposed to the best interests of mankind.

SECTION VI.—OBSTETRIC MEDICINE AND SURGERY.

In the Obstetric Section the afternoon of Wednesday was occupied in the delivery of the President's introductory address. He took for his subject "Some of the Eminent Obstetricians who had Practised in this City," and delivered an interesting, learned, and eloquent discourse, in which he gave brief notices of the chief London accoucheurs, from Thomas Raynald to Thomas Denman. On the morning of Monday, the first working meeting of the section, the discussion was opened by Professor Tarnier in an eloquent address on the forceps. He briefly traced the history of the perineal curve, and objected to it for two reasons: (1) Traction cannot be made in the axis of the pelvis, and may injure the pelvic walls; (2) the force being applied too far from the centre of the fœtal head, the instrument is turned into a lever, which may again injure the pelvis whenever a movement is made to one side or the other. Professor Tarnier exhibited his own forceps, together with the latest improvements made in it, and claimed that by it traction can be made in the axis of the pelvis, traction can be applied to the centre of the fœtal head, that the head can move as freely when grasped by the forceps as it can in natural labour, that in this forceps the operator has an indication which points out the movements of the fœtal head, and thus obtains a guide for the direction in which traction should be made.

Professor Lazarewitch of Cracow followed. He maintained that the only curve essential to the forceps is the head curve, the pelvic and perineal curves being not only unnecessary but mischievous. Forceps without pelvic or perineal curve answer best the mechanical requirements favourable to the action of the instrument, for the perineal curve is superfluous, inasmuch as the perineum can be readily distended as far as the coccyx without injury, while the pelvic curve increases the resistance to the passage of the head, endangers the soft parts, and renders the power of making traction in the axis of the pelvis difficult, if not impossible. Moreover, the direction in which traction should be made is decided by the muscular sense. The universal opinion of the section, however, appeared to be against Professor Lazarewitch's views, and in favour of the pelvic curve of the forceps. The chief objections raised against Professor Tarnier's instrument are its complexity and the danger with which it threatens the soft parts at the floor of the pelvis and the continuous pressure it exercises upon the fœtal head. Its complex character was seen and pointed out at its first introduction, and this is doubtless one reason why it has met with so little favour in this country. The danger with which it threatens the soft parts of the pelvic floor was forcibly expressed by Fordyce Baker, while Matthews Duncan drew attention to the danger to the fœtus from persistent pressure on its head. The latter, with true wisdom, pointed out that a scientifically perfectly-constructed instrument is not necessarily better than a scientifically imperfect instrument which has been gradually improved by generations of practitioners. Prof. Tarnier's instrument is on its trial; it has been constructed on theoretical principles, and time and experience by many practitioners in all parts of the world will alone decide whether the issue of M. Tarnier's labour and ingenuity is better suited for use in difficult midwifery than the product of long experience.

In a paper on Intermittent Contractions of the Pregnant Uterus as a means of Diagnosis, by Dr. Braxton Hicks, the value of these changes in the organ in elucidating the diagnosis of tumours of the abdomen was pointed out, and illustrated by cases. There can be no doubt of the value of contractions of the uterus or of a tumour in distinguishing enlargements and tumours of the uterus from those of other organs; but they are by no means diagnostic of pregnancy, for they are not infrequently seen in fibroid tumours of the uterus—a fact which the author had omitted in his paper.

Professor Simpson of Edinburgh read a paper on a Common Nomenclature in Obstetrics; and after some discussion it was resolved that a committee be formed, consisting of one representative of the several nationalities represented in the Congress, to draw up a scheme of common nomenclature to be considered at the Obstetric Section of the next International Medical Congress; the representative of each country to consult with a committee of his fellow-countrymen.

After Dr. Budin had read an interesting paper on a Peculiar Arrangement of the Membranes in Twin Pregnancy, the sitting terminated.

The discussion on Friday morning was opened by Dr. Battey, who read a paper on Oöphorectomy. The operation is now commonly called after the author, "Battey's operation." In his paper he discussed first of all nomenclature; then the questions, "Is there a field for the operation? the indications for it, the method of performing it, and the proximate and ultimate results." It appears that there is a field for the operation; but, according to Dr. Battey's idea, a somewhat narrow one, for he has performed the operation sixteen times only during ten years; while, as shown by a table presented to the meeting, it had been done at Birmingham by Mr. Tait sixty-five times since May, 1879—that is, in a period of two years and three months. Whether this enormous difference arises from a difference in the field or in the tiller of it we do not pretend to say. According to Dr. Battey, who presented a table of over two hundred cases with results, the mortality is 18 per cent., and the cures in completed operations 72 per cent., in incomplete operations 26 per cent. Dr. Battey was followed by Dr. Savage, whose paper we need not further notice, as it appears to contain nothing of importance that has not been already published, and discussed by us. The discussion which followed the reading of these papers was the chief and most interesting of all those which took place in the section. Mr. Knowsley Thornton called attention to the large proportion (8 per cent.) of cases in which the operation could not be completed, and concluded by stating that what was required before pronouncing the operation to be justifiable was a clean mortality bill and a far more perfect record of the ultimate results than any yet given. Dr. Martin of Berlin thought the operation should be done but very rarely. He deprecated haste in publishing the cases, because a long time must elapse before the ultimate results can become known. For this reason he had not published his results. He had performed it in fourteen cases. Mr. Spencer Wells saw no cases demanding the operation. Dr. Goodell of Philadelphia had always followed the vaginal method in the operation, but would discard it in future, and adopt the abdominal. He suggested that it should be a part of the State Medicine of the future that the ovaries of insane women should be removed. Dr. Matthews Duncan was a decided opponent of oöphorectomy; he regarded it as an operation which was in the crudest experimental stage. He had been all his life in contact with women's diseases, and recently he had often been consulted as to oöphorectomy, and had sanctioned it in one case only, for he did not see the cases that required it. He regarded the sufferings of neurotic women as greatly exaggerated; he had never seen death follow them. He further pointed out, with reference to oöphorectomy for bleeding uterine fibromata, that a series of cases had been laid before the meeting—twenty-six cases with five deaths. He knew of no such bad results under any other kind of treatment, and was sure that such disasters were unequalled in the history of the subject.

After the discussion on oöphorectomy, a group of five papers on subjects connected with displacements of the uterus were read. In a paper entitled "The Exciting Cause of Hysteria and Hystero-epilepsy," Dr. Graily Hewitt traced such attacks to reflex irritation, arising from compression of the uterine tissues from flexion of the uterus. Dr. Paul Mundé of New York discoursed on the Curability of Uterine Displacements, and concluded that in cases of old-standing permanent cure was extremely rare. Dr. Edis called attention to the many reflex disorders arising from uterine disease. Dr. Verrier of Paris described a somewhat formidable machine for dressing the displaced uterus, and Dr. Beverley Cole of San Francisco discussed the Mechanical Treatment of some of the Displacements and Diseases of the Uterus. These papers, however, excited but little discussion, except that Dr. Mundé related some cases illustrative of the position taken by Dr. Graily Hewitt.

On Saturday morning the sitting opened with a paper by Professor Freund of Strasburg on Total Extirpation of the Uterus. In the author's absence an abstract was read by one of the secretaries, Dr. John Williams. In this abstract Professor Freund unfortunately gives no statistics. Indeed, he confines himself to general statements and to a brief discussion of the two methods of removing the whole uterus—viz., the abdominal (Freund's) and the vaginal. He seems to regard his method as a stage in the progress of the operation of total extirpation, and appears to think that the vaginal method is to be preferred, especially in cases in which the uterus is small and the vagina capacious. He

concludes "that the operation may be undertaken as a not very dangerous one in the early stages of carcinoma and sarcoma, in which it gives a promise of radical cure." A paper by Professor Corradi was read by Dr. Bantock, in which the author advocated total removal of the uterus by a combined vaginal and abdominal method. Dr. Martin of Berlin said that but few patients could be subjected to this operation. If the glands or broad ligaments were affected the operation should not be done. He had removed the uterus six times after Freund's plan, and all the patients died. He had removed it in seventeen cases by the vaginal method, and found no great difficulty in arresting the bleeding. The question of recurrence can only be settled after the lapse of sufficient time. Professor Czerny of Heidelberg, in consequence of the bad results he had met with by Freund's method, had adopted the vaginal, and had removed the uterus in this way seven times; four of the cases recovered, but recurrence had taken place in several. Professor Hennig of Leipsic advocated recourse to the operation, though the cases permanently cured be very few. Mr. Spencer Wells had never seen a case in which so serious an operation appeared justifiable. The cases were too far advanced, or were such as permitted of the removing of the cancerous tissues by scraping or cutting, and the application of caustics, &c. Dr. Marion Sims described his method, now well known, of treating cancer of the uterus.

Professor Slawjanski of St. Petersburg read an interesting paper on "A Point in the Diagnosis of Ovarian Tumours," in which he indicated a symptom which appears to be diagnostic of the side on which the tumour grows. This sign is an impairment of sensibility in the inguinal triangle on the side of the affected ovary. He had examined five cases, and this was present in each case, and the accuracy of the diagnosis was verified by an operation.

Dr. Martin of Berlin read a paper, with illustrative cases, in which he advocated a new method of treating extra-uterine pregnancy, or rather a new method of treating the placenta and the sac in operating for extra-uterine pregnancy. He proposes to ligature, and has ligatured, the base of the placenta, and removed as much of the sac as possible, closing the remaining portion from the abdominal cavity, having drained it already into the vagina. He states that when the placenta is attached to the pelvic wall it can be ligatured as well as when attached to the uterus, and that in this way the placenta can be removed, and the danger of hæmorrhage and of infection in great part, if not entirely, obviated.

The next subject brought before the section was the Surgery of the Cervix and Vagina, in two papers, one by Dr. Pallen of New York, entitled "The Reparative Surgery of the Cervix and Vagina," the other by Dr. J. H. Bennet, and entitled "Lacerations of the Cervix Uteri, their Causes and Treatment." In the first paper was discussed a large number of questions, no less than the congenital deformities of the vagina and cervix, as well as the acquired conditions requiring plastic operation. Dr. Bennet found in inflammation the cause of lacerations of the cervix, and their treatment was the treatment of the inflammatory condition. The great subject of difference, however, between these two authors was the operation of Emmet for sewing the lacerated cervix or trachelorraphy. Dr. Playfair discussed the question very fairly and fully, and explained how he had been prejudiced against the operation and how he had come to change his views respecting it. He had done it in several cases, and found he had been enabled thus to cure some cases of long-standing illness. Dr. Goodell, Dr. Marcy, and others, paid a just tribute to Dr. Henry Bennet for the work he had done as a pioneer in the study of gynæcology in this country, but they could not agree with him in his estimate of Emmet's operation. Dr. Goodell thought it should be done in cases of lacerated cervix, even when there were no symptoms, with a view to prevent the development of epithelioma.

On Monday the work of the section began with an address by Dr. Barnes on the Treatment of Puerperal Hæmorrhage. Dr. Barnes entered somewhat fully into the conditions which predispose to hæmorrhage, and the physiological conditions which oppose hæmorrhage. This part of his subject occupied so much of the time that he had but little to devote to the main object of his paper. To guide in the clinic of remedies, hæmorrhage is divided into three degrees: 1st. The diastaltic function is maintained intact, but its action is disordered. 2nd. The diastaltic force is markedly diminished. 3rd. The diastaltic force is suspended. The usual means employed successfully in the first and second degrees were enumerated; they failed in the third. When muscular contraction fails an equivalent may be found in styptics—iodine or iron. Iodine often fails; in iron we should put our trust. The author concludes that uterine injections of solutions of perchloride of iron are capable of averting bleeding when all other means have failed.

Dr. More Madden followed with a paper in which he discussed the Prevention as well as the Treatment of Post-partum Hæmorrhage. He advocated a course of iron before labour, and the usual means, together with styptic injections, if necessary, after labour. Upon this question—especially the value of intra-uterine injection of solution of perchloride of iron—there was great difference of opinion. Some, as Matthews Duncan and Cole, rejected it *in toto*, trusting altogether to the retraction of the uterus, while others advocated its employment as a last resource when all other means had failed. The result of the discussion appeared to be that the cases which demand its use are extremely rare. The President dwelt upon the means of preventing hæmorrhage. He gave a stimulant immediately the child was born. Chloroform predisposed to hæmorrhage. He had in one case used injection of perchloride of iron with success.

An interesting and valuable paper upon an uncommon condition was read by Dr. Roper—viz., Trismus and Tetany of the Uterus. He related seven cases, three of Smellie's and four of his own practice. The treatment of the condition was extremely difficult, and no plan yet suggested was satisfactory.

After the exhibition of some instruments, a paper on Delivery by Electricity was read by Dr. Apostoli of Paris.

Professor Spiegelberg had undertaken to open a discussion on Antiseptics in Midwifery, but owing to illness he was not able to be present, and his paper was read in abstract by one of the secretaries, Dr. Galabin. Having referred to the development of antiseptic views in surgery, he said that during labour the strictest cleanliness and antisepsis on the part both of mother and attendants should be observed; disinfection of the genital tract by frequent irrigation with antiseptics: antisepsis after infection has taken place is not of much avail. It is only directly useful in processes of decomposition before the uterine parenchyma has become affected.

He was followed by Professor Winckel of Dresden, who gave a report of the result of the introduction of antiseptic rules to the midwives in the kingdom of Saxony during the past twelve months. Dr. Reid, Dr. Maggioli of Rome, and others took part in the discussion.

Dr. Mount presented an interesting and valuable report of the deliveries and deaths in the lying-in wards of the workhouse infirmaries during the last ten years.

After the reading of a paper by Dr. Halbertsima of Utrecht, entitled "Puerperal Eclampsia is in most cases the consequence of Pressure on the Ureters," and one entitled "A Comparison between Embryotomy and the Cæsarean Section," by Dr. Eustache of Lille, the last sitting of the section closed.

SECTION VII.—DISEASES OF CHILDREN.

The proceedings of this section have been on the whole satisfactory. Although no striking additions have been made to the study of children's diseases, the gaps in our knowledge have been brought into relief, and useful suggestions for future work have been made. There has been less dogmatism and less discursive talk than are often to be found in discussions on medical topics, and opposing views have been fairly and moderately stated. A great part of the success was certainly due to the able way in which the President discharged his duties.

In an elegant inaugural address, Dr. West gave a brief but comprehensive epitome of the advances made in the knowledge of children's diseases during the last thirty years. The section was repeatedly indebted to the President, and likewise to Mr. Holmes, the surgical Vice-President, for the admirable way in which the speakers were kept to the points at issue, and the *résumés* given at the end of each discussion were models of terse and pithy statement.

The first discussion was devoted to the treatment of Spinal Curvature by Sayre's Method, and this occupied the section for two sittings.

With the exception of Mr. Henry Baker and Mr. Reeves there was a general consensus of opinion in support of Dr. Sayre. Mr. Henry Baker's paper was a *rechauffé* of the old

views on the subject of extension, to the effect that its employment in the acute stage of spinal caries was dangerous, and in the late stage useless. Mr. Reeves referred to two cases of paraplegia and one of wryneck which had occurred after suspension, and held that the lengthening obtained was only transient. But, criticism apart, we venture to think that neither of these surgeons could bring forward any series of cases treated by old methods with results in the least comparable with those obtained by Dr. Sayre.

With respect to details of treatment, Dr. Oxley of Liverpool mentioned an ingenious device for renewing the singlet under the plaster corset. At the first application of the corset he used two singlets instead of one, and at intervals of a week or longer removed the inner one by withdrawing it over the child's head, having previously tacked to its lower edge a clean singlet.

Dr. Oxley frankly admitted that in his early experiences he had sometimes over-extended. With some deference he objected to Dr. Sayre's early demonstration of the difference in the shape of the curve before and after the extension as giving rise to an erroneous view of the object to be sought. Dr. Oxley contended that the real object of the treatment "was to take off the weight of the column from the diseased vertebræ, not to straighten the deformity;" although, as a matter of fact, the spinal column is straightened as a whole, for the patient, instead of bending forward and leaning his hands on his knees or on some neighbouring object, has his whole body above the diseased part supported and fixed.

Dr. Sayre, in a very vigorous speech, insisted with much emphasis on the danger of over-extension. He strongly condemned the suggestion of so distinguished a surgeon as Langenbeck, that the suspension should be preceded by anæsthesia. The limit of justifiable extension he had found again and again to be attained when the child showed signs of relief from pain after muscular spasm had been overcome. Dr. Sayre disavowed any desire to straighten the "boss" of the angular curvature, but he insisted that even with the most careful maintenance of the horizontal position inflammatory disease of a joint was sure to be accompanied by reflex contraction of muscles. This contraction was overcome by the suspension. Dr. Sayre gave some interesting cases of the successful application of his method to old people, the subjects of spinal caries.

The treatment of lateral curvature by Sayre's method was not fully entered upon, but Mr. Bernard Roth deprecated its use, except in extreme cases; and it was satisfactory to learn from Dr. Sayre that he regarded it merely as supplementary to the more important measures of "massage" and of careful exercise of the weakened trunk and neck muscles. Amongst useful movements for persons the subjects of lateral curvature, Dr. Sayre spoke of the homely one of making them walk with a book on the top of the head. To return to the proper subject of debate—the use of Sayre's method in spinal caries. Mr. Holmes in his summary maintained that there were still lacunæ in our experience of the treatment in regard to the question as to "whether and how far symptoms of decided spinal irritation or inflammation have to be taken as contra-indicating it."

The discussion on the Pathology and Treatment of Genu Valgum, which also occupied two sittings of the section, brought out sufficient divergence of opinion to sustain the interest even of the medical part of the audience. As to the cause of the deformity, Mr. Lucas claimed that in almost every case it was the outcome of rickets, but this was by no means conceded either by the Vice-President or by Dr. Little, who showed that many other causes might give rise to it. Dr. Macewen held that in regard to the anatomy of the deformity in the typical cases there was a twisting of the lower third of the femur and an actual intrinsic lengthening of the internal condyle, and that in about one-third of the cases there was a slight affection of the tibia likewise. As to the shape of the foot, Mr. Brodhurst held that it was flat, and that this indeed preceded the knock-knee; relaxed ligaments being with him the primary factor. Dr. Macewen strongly maintained that he always found the foot curved and arched on the inner side, and Dr. Little's explanation was that originally the foot was flat in these cases, but that when the patient with genu valgum tried to walk he turned the big toe inward as a compensating measure.

With regard to osteotomy, Dr. Ogston's operation, owing to the absence of its author, was but little referred to; but Dr. Macewen's supra-condyloid method was well discussed, and some remarkable results set forth in support of it. In reference to age, Dr. Macewen declined to give any limit, but contended that the condition of the bones should be regarded as the true test; if there were ramollissement, he would not perform the operation, whatever the age of the patient, believing that splints would effect what was required. As a matter of fact, eight years was the age of the youngest patient on whom he had operated, and he strongly deprecated the performance of osteotomy on young children. Dr. Macewen had operated on 600 limbs, and of the three deaths in his practice not one had been due to the operation. Six only had suppurated. It was contended that the risk was not greater numerically than that of tenotomy. As to power of walking after the operation, Dr. Macewen referred to two recent cases, one a man aged eighteen, who when admitted had an interval of eighteen inches between his malleoli, and was unable to walk except with great pain, but who six months after operation walked six miles daily with comfort, besides doing arduous work. The other patient, who when admitted had an interval of fifteen inches between his malleoli, had four months after operation walked 100 miles in four days. Dr. Little claimed that the cure for ordinary cases of genu valgum was to keep the knee extended, but he pointed out also that extreme flexion would succeed, and made the homely and valuable suggestion that amongst the poor a boy afflicted with this deformity should be apprenticed to a tailor, on account of the posture usual in that occupation. In the severe cases Dr. Little gave in his adhesion to Dr. Macewen's method of osteotomy. The *rationale* of the operation depended on the formation of a wedge of callus, succeeded by a mass of bone in the gap made by the chisel above the external condyle. The result of the formation of this new wedge of bone was that the external condyle was brought downwards, and the interval which previously existed between it and the tibia was diminished.

Mr. Brodhurst advocated the mechanical treatment of the deformity, with the addition in severe cases of tenotomy of the external lateral ligament and of the biceps femoris. He made a vigorous onslaught on osteotomy as an operation unnecessary, ineffectual, and dangerous. Mr. Barker drew attention, however, to the fact that none of the dire results ascribed to osteotomy had followed upon Dr. Macewen's method, and quoted a case which had come under his own observation of a useless limb which had resulted from tenotomy of the external lateral ligament, performed for the relief of genu valgum.

The veteran French surgeon, M. Guérin, insisted on the classification of cases under the categories of: (1) those where the deformity was due to muscular contraction, and (2) those where the relations of the joint were altered. In the 300 cases which had come under his observation he had never found osteotomy necessary. M. Fochier advocated the violent method known as *redressement brusque*, but this found no favour with any other speaker.

In summing up the discussion, Mr. Holmes obtained the hearty concurrence of the section to his dictum that if proper care and attention were given in early life operative interference would never be required in these cases. He referred to the remarkable divergence of opinion as to treatment in that M. Guérin, with an experience of half a century, should not have seen a single case where osteotomy seemed indicated, whilst Dr. Macewen in a comparatively short period had considered the operation desirable in no less than 600 limbs. In spite of Dr. Macewen's hitherto excellent results, Mr. Holmes could not regard the artificial production of what was practically a compound fracture of the lower end of the femur as a procedure free from risk. He felt bound, however, to acknowledge the efficiency of the method, and that Dr. Macewen had made a distinct advance in surgery.

On the Surgical Treatment of Empyema, though some excellent papers were read, there was little that was really novel added to our knowledge.

Dr. Gerhardt insisted on the possibility of spontaneous cure of small empyemas by absorption, though he admitted that it was an extremely rare event. He drew attention also to the occasional cure by expectoration through the lung without the occurrence of pneumothorax.

The President and Dr. Ranke of Munich agreed in considering expectoration through the bronchi as a rarer event in children than in adults. Simple aspiration, on the testimony of several speakers, was claimed to be efficient in a certain number of cases. If this measure should be found ineffectual, there was a general consensus

of opinion that incision and free drainage with antiseptic precautions should be adopted.

Mr. Cross of Bristol referred to three cases under his care of rapid and satisfactory recovery under the antiseptic method. The first was that of a young woman aged eighteen years, who recovered within three weeks; the second, that of a child aged two years and three-quarters, who recovered within six weeks; the third was a specially difficult case, that of a girl who, besides suffering from empyema, had several scrofulous sinuses connected with the sternum, and was also the subject of mitral disease. This patient, under antiseptic treatment, had recovered from the empyema at the end of the eighth week. Although the antiseptic method probably diminishes the early risks in incising an empyema, we believe it to be an open question whether the duration of the treatment is not often longer than when simple incision with free drainage are adopted. Nothing could be more satisfactory in regard to time than the three cases recorded by Mr. Cross; but we noted that Professor Ranke gave six months as about the average stay in hospital of his patients treated by the same method. Washing out the empyema cavity with iodine, carbolic acid, &c., received little favour, and the use of the counter-opening was, on the whole, disparaged. A suggestion was made by Mr. Parker that in the rare cases where the lung was firmly bound down and the parietes unyielding so that aspiration was ineffectual, carbolised air should be admitted into the pleura with a view to facilitate the withdrawal of the fluid. This plan Mr. Parker, however, considered to be more applicable to adults than children.

In the session devoted mainly to the subject of Excision of Joints, the paper which attracted most attention was that of Professor Hueter. No complaint could be made as to the clearness and decision with which somewhat novel doctrines as to the treatment of scrofulous joint disease were stated, but there was a strong opinion that before some of these views were accepted very complete reports of a large number of cases in support of them should be submitted. Professor Hueter defined scrofulous joint inflammations as those in which the formation of masses of granulation tissue precedes suppuration, whilst in simple inflammation suppuration precedes the formation of granulation tissue.

The methods of treating early scrofulous joint inflammation in this country are based chiefly on the obtaining of rest and fixation of the joint with extension. These, as well as the antiphlogistic methods of bleeding and blistering, and also subsequent massage, Professor Hueter considers useless. He recommends the early injection by a Pravaz syringe of a 3 to 5 per cent. solution of carbolic acid into the incipient granulation tissue, whether it be situated in the synovial membrane or in the medulla of bone. If this does not prove satisfactory he recommends early excision. It was pointed out by Mr. Morgan that in the hands of English surgeons complete rest and fixation of the scrofulous joint had been followed by a considerable amount of success, that the treatment of diseased synovial membrane by sulphuric acid had not borne the fruit which had been expected of it, and that excision of joints, with the exception of the elbow, had been repeatedly disappointing. Mr. Holmes also insisted that cases of joint disease which everybody would agree to call scrofulous had unquestionably recovered with rest, drainage, &c., and that the rule that if the injection of carbolic acid was not followed by improvement excision should be adopted was so absolute as to require much evidence to enforce its acceptance by English surgeons. Professor Hueter, in reply to the first observation, admitted that certain scrofulous inflammations of joints had subsided when at rest, but contended that they were cured by *time* and not by *rest*. Dr. Sayre admitted that rest at the earliest time possible might effect a cure, but he objected to rest in bed in a hospital. He thought that only the inflamed joint should be at rest, that enough extension should be employed to take away pressure from the inflamed surface, and that as far as could be the investing tissues of capsule and the like should be exercised so as to keep up their nutrition.

The subject of Surgical Scarlet Fever was well set forth in the paper with which Mr. Marsh introduced the discussion. The experience at the Children's Hospital, Great Ormond-street, was quoted to show that whilst in the old hospital, where cases of scarlet fever were treated under the same roof as surgical cases, surgical scarlet fever occurred pretty often; in the new hospital, where the fever cases were treated under a separate roof, this complication was extremely rare. In regard to the entrance of the poison, Mr. Marsh did not favour the view that it was through the wound, on account of the latter remaining healthy. He was inclined rather to believe in the latency of the poison in the patient, and that in some sense it was precipitated by the operation or by the nervous depression associated therewith.

Now, we know that there is undoubted latency in the poisons of some of the diseases to which man is subject; for example, ague and hydrophobia. But seeing that occasionally the incubation period of scarlet fever is remarkably short, we fail to understand the need of invoking the latency hypothesis, except where it is absolutely impossible to establish any recent source of infection. There must, however, be something special in the receptivity of the patient. We confess to a general agreement with Dr. Goodhart, who stated that not only cases of operation wounds and of surgical disease, but even occasionally of phthisis, are liable to be attacked with this abrupt form of scarlet fever, and pointed out that the one thing in common is the presence of an inflammatory soil on which it may be assumed the germs of an acute specific poison can readily take root. That the surgical scarlet fever confers protection from the ordinary form of the disease there seems to be no doubt, but there is one link in the chain which it is desirable should be fitted in if the material is forthcoming—viz., are there any cases of ordinary scarlet fever being imparted to others by a desquamating surgical scarlatina?

The discussion on Rötheln elicited a fairly concurrent account of the ordinary type of this mild but definite exanthem. It was, however, clearly demonstrated from Dr. Cheadle's important communication, that occasionally this disease can assume a severe or malignant form. Dr. Cheadle related examples in which there was recurrent vomiting, severe earache, and laryngeal obstruction, so severe in some cases as to require tracheotomy. That these severe cases were true rötheln, and not measles, as at first believed, was proved by their breeding undoubted rötheln of the mild uncomplicated type in persons exposed to their infection. On the Relations of Chorea and Rheumatism there was considerable disparity in the numerical results obtained respectively by Dr. Stephen Mackenzie and Dr. Octavius Sturges. In analysing 172 cases admitted into the London Hospital during six years, Dr. Mackenzie had found that there was some cardiac abnormality in more than half the cases; that in more than 80 per cent. the heart lesion persisted; and that there had been pre-existent rheumatism in nearly 50 per cent. Dr. Sturges found that of 121 cases under his care at the Highgate branch of the Children's Hospital, 97 were free from any history of rheumatic manifestation. He strongly maintained the functional nature of chorea, and its tendency to spontaneous recovery independently of any kind of medicinal treatment.

Dr. Byers of Belfast in speaking of the relationship of rheumatism with chorea, pointed out that there was considerable evidence to show that rheumatic endocarditis was the connecting link (the chorea being due to emboli), but he held that the embolic theory would not explain all the cases, and quoted examples where there was no rheumatic history and no murmur. In order to include both rheumatic and non-rheumatic cases it would seem necessary to refer the primary fault to some disturbance of the nervous system, and this was not inconsistent with the view now held by many that rheumatism is itself a disease of the nervous system.

Dr. Ranke of Munich thought the geographical distribution of disease of great importance. In regard to chorea he thought its relative frequency must vary considerably in different districts. He found from his Case-book that since 1867 out of 40,723 children treated by him at the University Dispensary at Munich only nineteen cases of chorea had been treated. Of these three had presented a systolic murmur, in all the others the heart sounds had been found normal. There was only one child in whom a previous attack of acute rheumatism had occurred. Of the nineteen cases the chorea in two had followed upon fright; in all the rest no immediate cause could be discovered.

Dr. Barlow and Dr. Warner read a joint paper on the Occurrence of Subcutaneous Nodules in Children, the subjects of chorea and rheumatism. The paper was an analysis of twenty-seven cases which had come under their observation. The nodules described varied in size from that of a mustard seed to that of a bitter almond. They were strictly subcutaneous, being attached to tendons or the deep fascia, especially near joints. In minute structure they consisted of connective-

tissue cells, young fibrous tissue and vessels, and appeared either in one or several crops. They usually subsided within two months, but might reappear. They were painless. Their evolution was unattended by pyrexia. The importance of these nodules did not depend on anything intrinsic, but on their clinical associations. In all the cases there was heart disease, often grave and progressive in character. There was history of rheumatism in about two-thirds of the cases, and of erythema marginatum in more than one-fourth of them. Twelve out of twenty-seven cases had chorea.

It was submitted that the occurrence of these nodules might be taken as indicative of rheumatism in children; that when found associated with heart disease and chorea, although no history of rheumatic fever could be obtained, nevertheless their presence gave a presumption that the chorea was rheumatic; that in nature they were probably homologous with the inflammatory exudation which forms the basis of a vegetation on a cardiac valve.

There remain two important subjects which were discussed in the section of children's diseases, to which we propose to give future consideration. These are the relations between syphilis and rickets, and some questions bearing on diphtheria and its treatment.

SECTION IX.—OPHTHALMOLOGY.

The Ophthalmological Section held its meetings in the rooms belonging to the Royal Society in Burlington House, under the presidency of Mr. W. Bowman, F.R.S. At the opening meeting on the 3rd, after a few words of welcome and explanation, Mr. Bowman said:—

"In our own proper section of Ophthalmology we shall have the advantage, on successive days, of directing our minds to the several important questions set down in our programme. The names of Horner, Snellen, Leber, Adolf Weber, and De Wecker, assure us that the materials for deliberation will be ample, and competently presented to us. There are also additional communications by able men bearing on the same matters, and these will be read in juxtaposition previous to opening the debates. The high reputation of so many of our members raises our expectations as to the results."

Proceeding to foreshadow the week's work, Mr. Bowman said:—

"To-morrow the first of the distinguished men whom I have just now named will place before us a subject of great interest and importance, the antiseptic method in eye surgery. I presume that no one nowadays will question the evils we are so familiar with in our practice, and which have so often marred the intention of well-devised operations skilfully performed, but where, as we hear it said, Nature has failed to do her part, to second the effort of the surgeon by a due process of repair. The study of the causes of such failures and of the means of obviating them constitutes by far the most brilliant page in the history of modern surgery; and in other sections of this Congress, while the name of Lister will be applauded, the wide questions he has raised, and in raising has so often cleared up, will receive the full consideration they call for.

"In the case of the organ of sight, specially constituted, and in some respects screened from injury as it unquestionably is, there are reasons why the application of precautionary antiseptic measures, though the principle of them must still assert itself, should take a somewhat special form. Owing to the local structural conditions they may apparently be often more simple, though the possible need of the more elaborate of them should never be allowed to fall out of view.

"The tears are a secretion as pure from extraneous particles as is the filtered air in the recesses of the lungs. They are poured out under cover, in the right place, in quantity suitable to the need; while the lids diffuse them over the conjunctival surface ere they escape by their proper channels. Their useful and multiple office is performed in a way so simple and so perfect that no art, however skilful, could pretend to equal it. We should ponder well the deep marvels of adaptation of means to ends, and take heed that we do not hinder exquisite Nature by meddlesome or needless interference, by the *nimia diligentia chirurgorum*, but only lend it tender and judicious help by our dressings and our methods. We should always still be able to apply the words of our great poet, 'The art itself is nature.'"

Continuing his forecast of the work to be done, Mr. Bowman observed that the subject of sympathetic ophthalmitis would be brought forward for discussion by Professor Snellen. Of this disease the President remarked:—

"This in all its aspects and stages is an affection peculiarly calculated to arrest attention. Though it has been extensively and very accurately studied, it yet remains very obscure. Even its anatomical conditions cannot be said to be fully explored; why it should occur is little understood. The explanation of the very remarkable phenomena manifested lies hidden for the present in unknown anatomical and physiological relations, and it is to experiments on the lower animals that we may look with most probability for a clue to the enigma. Humanity will have reason to rejoice when this too-frequent cause of total blindness shall yield to a clearer insight into its nature, and to the consequent hoped-for discovery of the means of prevention or cure; for at present it brings lifelong misery to many homes. Meanwhile experience suggests some general rules which may do something to ward off this terrible malady, or help us, in some instances, to control it, even now and then to check its progress temporarily, and, perhaps, permanently. The difficulty lies in the application of such rules, and to this point our discussions may, I think, very usefully be directed."

After referring to the subject of the intra-ocular changes visible by the ophthalmoscope in diseases of the brain and spinal cord, Mr. Bowman went on to say:—

"Glaucoma, the other great subject to be brought before us, is of even more practical importance than sympathetic ophthalmitis, because of its far wider prevalence, and its equally fatal consequences to sight when uncontrolled. We shall consider it in two aspects.

"It was Albrecht von Graefe, as you well know, gentlemen, that bright spirit, whose too early death we have not yet ceased to mourn, for ourselves and for science, who, at the same moment that he announced to the world the discovery of a remedy for glaucoma, also drew for us, for the first time, the grand outlines of the clinical history of the disease. His treatise will endure as the model work of a most fertile genius. In it he laid down the chief subdivisions of the subject, and how far his remedy was likely to be applicable in each. This single paper constituted an epoch in our department of the medical art. It was read, but hardly discussed, at Brussels at the Second International Congress of Ophthalmology, September, 1857.

"It is, indeed, quite true that since that time our clinical knowledge of glaucoma has been greatly extended, and its varieties and complications recorded with some approach to completeness. Extensive researches, anatomical, experimental, and other, have also been undertaken to account for the remarkable train of phenomena we observe. Attempts have also been repeatedly made to explain the *modus operandi* of Von Graefe's celebrated remedy, but as yet, it must be allowed, without entire success. The treatment by iridectomy, too, has been largely tried, sometimes with modifications, and on the whole it has been admitted to be the best and most reliable. The time, the method, the conditions of applying it to the varieties of eye-tension have been in many particulars, though not with universal concurrence, defined and accepted.

"But, as was perhaps inevitable, men asking themselves always how iridectomy arrested the glaucomatous process, were now and then led to desire and to propose, and then to inculcate other methods having the same end in view, proceeding too often on some fancy or speculation, the validity of which experience has not sustained. Some of these methods after obtaining a certain currency have fallen into merited disfavour, while others remain more or less worthy of discussion, some perhaps of general adoption, under limitations to be yet laid down."

Towards the conclusion of his address Mr. Bowman dwelt on the importance of the necessity of enforcing sufficient, frequent, and uniform test examinations of the sight and of the sense of colour in all persons engaged in the working of signals by land or by sea.

After the President's address, on the motion of Mr. Critchett a committee was appointed by the section to deliberate concerning the tests of vision and colour sense most applicable to persons employed in working or observing signals by land and sea, where the lives of others are involved, and to report thereon to the Council. This committee comprised many of the most eminent ophthalmic surgeons from the various countries represented at the Congress.

On the second day (Aug. 4th) Professor Horner of Zurich

opened the discussion on the Antiseptic Method in Ocular Surgery. Taking the statistics given by Noyes and Geissler of the results of cataract-extraction, as showing a loss of 10·1 per cent. by the flap and 4·8 per cent. by the linear operation, Professor Horner alleged that by strict antiseptics, such as the prophylactic disinfection of the patient, operator, and instruments, &c., and by antiseptic dressings after the operation, we may hope to reduce the losses to 1·5 per cent.

Professor Reymond followed in the same direction as Professor Horner, and insisted that in order to carry out Listerism in cataract-extraction the dressing should extend far beyond the orbital region and should be very accurately applied. In 350 extractions since January 1st, 1880, Professor Reymond had had primary sloughing of the cornea in seven patients, of whom four had taken off the bandages themselves before the third day. In connexion with the same subject, Professor Th. Leber of Göttingen read a paper on the Action of Foreign Bodies introduced into the Eye, in which he maintained that the purulent inflammation which supervenes on the introduction of metallic fragments into the eye is always due to the action of germs which have entered through the wound. Purulent inflammation may, however, be set up independently of the action of germs by the introduction into the interior of the eye of certain chemical substances, such as arsenic, binoxide of mercury, &c. The extracts of septic liquids in which the germs have been killed by boiling set up transient inflammation when injected into the anterior chamber or into the corneal tissue. Various conflicting opinions were expressed in the discussion following these three papers. Dr. Knapp of New York maintained that the inflammation that followed cataract-extraction is due more to injury of the cornea than to infection. On the same day papers were read by Dr. Landolt of Paris on Motor Affections of the Eyes, and by Dr. Abadie of Paris on Partial Tenotomy of the External Recti in the treatment of Insufficiency of the Internal Recti. Dr. Javal of Paris showed his beautiful and ingenious apparatus for the subjective and objective determination of astigmatism.

On the third day Professor Snellen inaugurated an important discussion on Sympathetic Ophthalmitis by an ingenious paper on the nature of this disease, and the mode of its transmission. Alleging the insufficiency of the explanation of a reflex action of the ciliary nerves, he proposed the hypothesis that sympathetic ophthalmitis should be regarded as a metastatic specific inflammation, in which special parasitical inflammatory elements are conveyed over to the choroid of the sympathising eye through the dilated lymph-paths. Dr. Brailey followed with a paper on the pathology of the disease, in which he maintained that the uveitis which is met with in this disease presents certain definite pathological characters by which it can be distinguished histologically from all other forms of inflammation. He also agreed that the disease is not transmitted from one eye to the other by the passage of structural change along either optic or ciliary nerves. Dr. Poncet of Cluny then related a case in which in an eye enucleated after enervation, for sympathetic mischief, examination showed changes of unusual intensity, due to the optico-ciliary neurotomy. He ascribed the permanence of the sympathetic pains to an interstitial sclerosis with irritative compression of the fibres of the peripheral ends of the ciliary nerves. A lively discussion followed, in which Drs. Mooren, Grünhagen, Samelsohn, Leber, Bouchut, Panas, and others took part.

Dr. Liebrecht of Ghent then recorded some practical observations on the examination of railway servants and seamen as to vision and colour-blindness. Dr. Ole Bull of Christiania related a new method of examining and numerically expressing the colour perception, and Mr. Eales of Birmingham read a short paper on Primary Retinal Hæmorrhage in Young Men.

The fourth day was chiefly occupied with a discussion on Optic Neuritis in connexion with intra-cranial and spinal disease. Professor Th. Leber stated that optic neuritis in cerebral disease is a true inflammation, and is very different from the hyperæmia caused by venous stasis and the lesions which depend on it. This inflammation, he said, is not caused by stasis in the retinal veins from compression of the cavernous sinus, due to diminished intra-cranial space, nor is it the result of irritation of vaso-motor nerves caused by the cerebral affection. It is the optic nerve which is the path of communication between the affection of the brain and that of the eye. An essential part in this transmission is taken by the effusion of a serous fluid into the sheath of the nerve extruded from the cranium by the increased intra-cranial pressure. This fluid does not act by simple mechanical pressure, since its quantity is sometimes small; probably it possesses phlogogenic properties. Intra-cranial tumours act as a sort of foreign bodies, provoking inflammatory congestions and hypersecretion of fluid (internal hydrocephalus). The same effusions are found in meningitis when it is followed by papillitis. The origin of papillo-retinitis in cerebral diseases may, then, be explained by assuming that the intra-cranial inflammation produces serous effusion, which passes into the optic sheath, and exerts an irritating action on the papilla and neighbouring parts of the eye.

Dr. Bouchut of Paris, in a paper on the Relation between Ophthalmoscopic Conditions and Intra-cranial Disease, held that all the important diseases of the brain and cord, as well as the serious diathetic diseases, may be recognised by ophthalmoscopic examination. Thus, he argued, congestion and swelling of the optic nerve indicate congestion of brain, meningitis, compression of brain, or commencing spinal disease; œdema of disc and neighbouring retina shows œdema of meninges and obstruction to circulation in the sinuses and meningeal veins, in tubercular meningitis, in acute and chronic hydrocephalus, in cerebral hæmorrhage, in certain cerebral tumours accompanied by encephalitis, &c. Retinal varices and thromboses indicate thrombosis of the sinuses and meningeal veins. Miliary aneurisms of the retinal arteries show miliary aneurisms of the brain. In fevers and diseases of the nervous system retinal hæmorrhages indicate either compression of the brain by a copious effusion, the hæmorrhagic diathesis, cardiac obstruction to the cerebral circulation, or changes in the cerebral and retinal vessels caused by chronic albuminuria, glycosuria, syphilis, and leucæmia. Miliary tubercles of the retina and choroid show tuberculosis of the brain or meninges. Lastly, in nervous diseases, atrophy of the disc or sclerosis of the optic nerve always indicates a disseminated sclerosis of the brain or of the anterior columns of the cord.

After these followed a paper by Dr. Dianoux of Naples on the Treatment of Detachment of the Retina by Injections of Pilocarpin, in which it was stated that of sixteen cases treated by methodical injection of nitrate of pilocarpin six were cured, eight improved, and two were successful. The plan of using was explained and the contra-indications set forth. The dose recommended was strong at first, then moderate (salivation of at least two hours' duration); a series of fifteen consecutive injections should be given and then a rest for a week, and the treatment should be steadily kept up for three months. The day's sitting was concluded by a paper by Dr. Nieden of Bochum on Miner's Nystagmus. Of the pitmen examined 4·2 per cent. were affected with nystagmus. The disease occurred only in those who worked in certain pits—that is, where the illumination was defective, and especially where the safety-lamp was in use. In men working in pits where naked lights were used nystagmus was very rarely met with. Dr. Nieden regarded the disease not as a muscular spasm, but as a defective innervation like the tremor of old persons. A probable means of preventing the disease would be to increase the illuminating power of the lamps in use.

The business of the fifth day (Aug. 8th) was begun by the Committee on Colour-blindness presenting its report. As regards persons working on land the Committee recommended a continuance of the rules adopted at the last International Congress at Amsterdam. For use at sea the Committee recommended that in all ocean-going ships the steersman and look-out man should have normal acuteness of vision and colour sense, and that those in coasting vessels should have at least two-thirds of the normal standard. The officers and pilots, and all concerned in navigation, should have normal acuteness, there being no more than one dioptre of manifest hypermetropia up to the age of eighteen, and not more than one dioptre and a half above eighteen years. The Committee further urged that all persons should be carefully re-examined at the age of forty-five by competent experts.

After this followed a discussion on Glaucoma, begun by Dr. Adolf Weber of Darmstadt, with a paper on the Pathological Changes preceding and causing Glaucoma. Dr. Weber pointed out that, amongst the changes preceding glaucoma, we very commonly observe disturbances of the general circulation, which diminish the difference between the arterial and venous pressure, to the disadvantage of the former.

General nervous conditions are only so far of importance in glaucoma as they lead to these circulatory disturbances. Morbid changes in the tissues, such as are found in old age, aid in causing glaucoma only as they affect the walls of the bloodvessels. After explaining the mechanism of the interchange of fluids in the eye, he concluded by stating that the only invariable antecedent, and, in that sense "cause," of glaucoma, is a progressive contraction of the outlets of the intraocular fluids; the other antecedents, neither alone nor combined, can produce it. The clinical varieties of glaucoma, he said, depend on the seat, intensity, and extent of the contraction or obstruction in the efferent channels, on the primary or secondary character of this morbid process, on its inflammatory or non-inflammatory nature, the reaction on the circulation in the vessels, and its slow, acute, or destructive character.

Dr. Laqueur of Strasbourg followed with a paper on the Changes in Refraction which occur in Glaucoma, and then Mr. Priestley Smith of Birmingham reiterated his views of the Pathology of Glaucoma. Mr. Smith maintained that the cause of glaucoma is increase in the size of the crystalline lens, which presses on the ciliary processes, and thereby closes the angle of the anterior chamber through compression. Dr. Angelucci of Rome then described the nature of Descemet's membrane and the development of the canals of Schlemm and Fontana, in relation to the etiology of glaucoma. Dr. Angelucci believes Descemet's membrane to be a product of the corneal endothelium. Fontana's canal is, he said, produced during fœtal life by the penetration of the aqueous humour through the elements composing the iris, choroid, and origin of the ciliary muscle. Descemet's membrane takes no part in the formation of Fontana's canal, so that one must describe Fontana's canal as the part of the anterior chamber last developed by penetration through the elements of its limiting structures. Schlemm's canal being formed of veins with uninterrupted walls, whilst Fontana's canal is merely a lymphatic filtration path, the supposition of an open communication between the anterior chamber and the anterior ciliary veins falls to the ground. The cause of glaucoma is, he thought, not to be found in the closure of Fontana's canal (which is a secondary change), but in sclerosis of all the membranes of the eye, and chiefly of the walls of the bloodvessels.

Later on the same day Dr. Knapp of New York gave an account of his operation of extraction of cataract by peripheral division of the capsule. After this operation, he had obtained, he said, the following average results: 90 per cent. of the cases had acuteness of vision varying from $\frac{1}{2}$ to $\frac{5}{10}$, 5 per cent. from $\frac{1}{20}$ to $\frac{1}{10}$, and 5 per cent. from nothing to perception of light.

The greater portion of the sixth and concluding day was devoted to a consideration of the treatment of Glaucoma. Dr. de Wecker of Paris, discussing the relative merits of sclerotomy and iridectomy in glaucoma, said that sclerotomy will be resorted to in those cases in which iridectomy is known to be dangerous—viz., in glaucoma hæmorrhagicum, or in glaucoma congenitale, or glaucoma infantile, otherwise known as buphthalmic hydrophthalmia. Also where iridectomy is unreliable—that is to say, according to Von Graefe's own admission, in simple chronic glaucoma, with the absence of any inflammatory symptoms. In those cases where the visual field has contracted nearly to the point of fixation, it is unsafe to remove any iris. Prolonged experience had, he said, satisfied him that the scleral incision alone is the best, most complete, and safest in simple chronic glaucoma. Experience had shown that a glaucoma simplex, which has resisted sclerotomy, is not to be cured by an iridectomy. The most striking results are got from iridectomy in acute glaucoma; and it might be said that the more acute the glaucoma, the more successful the operation is likely to be. Dr. de Wecker concluded that sclerotomy is indicated:—1. In all forms of hæmorrhagic glaucoma and in those suspected of belonging to this category. 2. In all cases of glaucoma congenitale (buphthalmia). 3. In all cases of chronic simple glaucoma. 4. Whenever after an iridectomy the vision has deteriorated, or when the good result of this operation begins after a period to diminish. 5. In combating the prodromata of glaucoma. 6. In all cases of glaucoma absolutum, with complete atrophy of iris, and attacks of pain. Mr. Bader went somewhat further and laid down—(1) that the kinds of glaucoma treated by iridectomy can be treated, and more successfully, by sclerotomy; and (2) that to secure success it is desirable to maintain a staphyloma of the conjunctiva, with or without prolapse of the iris. He showed several striking cases in support of these two propositions. Dr. Abadie of Paris, on the other hand, maintained that sclerotomy is most suitable in cases of increased tension with deep anterior chamber. An interesting and animated discussion ensued, in which Mr. Power, Dr. Panas, Dr. Argyll-Robertson, Dr. Knapp, Dr. Samelsohn and M. Galezowski took part. Dr. Hermann Pagenstecher of Wiesbaden subsequently described a new operation for the cure of ptosis, in which he establishes a firm cicatrix between the drooping lid and the adjacent frontalis muscle.

Dr. G. T. Stevens of New York then read a paper on Oculo-neural Reflex Irritation, the conclusions of which were—1. That among the centripetal influences which generate nervous affections, the irritation arising from a perplexity or exhaustion of nerves in performing the functions of adjustment of the eyes must be regarded as of great importance. 2. That when a family tendency to neurotic affections is found, the inherited tendency is often transmitted in the form of the eyes or the condition of their accessories. 3. That inveterate cases of functional nervous diseases not amenable to other forms of treatment will often yield readily to the simple process of relieving the eyes from muscular or refractive disabilities.

The session terminated with a unanimous vote of thanks to the president and the secretaries for their services.

Among the exhibits were Dr. Javal's optometer and ophthalmometer, Dr. Hirschberg's and Dr. Story's microscopical specimens, representing tubercular inflammations of the eyeball; Dr. Stevens' perimeter, Dr. Zehender's and Dr. Nieden's specimens of artificial eyes, and some excellent photographs of microscopical specimens of the textures of the eyeball, shown by Dr. Gayet.

SECTION X.—DISEASES OF THE EAR.

The Aural Section of the Congress was opened on Wednesday by Mr. Dalby, whose able address has already been published. He there expresses his conviction that much light would be thrown on several subjects before the meetings terminated, notably the circumstances under which incision of the membrana tympani should be practised, and the pathology and treatment of those obscure cases classed under the head of nervous deafness.

The first subject for discussion was the value of operations in which the tympanic membrane is incised. Dr. Paquet read a paper on "A Modification of Myringodectomy for Sclerosis of the Ear." The author claims for his operation the double advantage of a permanent opening and division of the tensor tympani muscle. In one case he was able to keep the perforation patent for two years. Dr. Paquet, however, did not inform the members what advantage beyond a permanent opening he hoped to obtain by the operation, nor did he explain how his operation effected what all other varieties of myringodectomy have failed to do—namely, a permanency of the opening. Dr. Guye, opening the discussion, divided the cases in which myringodectomy is advisable into four classes—1st, in acute inflammation, with pus or muco-pus in the tympanic cavity; 2nd, subacute or chronic inflammation, with a large accumulation of tenacious mucus; 3rd, in chronic proliferous catarrh, attended by nervous symptoms, such as vertigo or tinnitus, &c.; 4th, in certain anomalous cases, as, for example, cases in which, owing to the patency of the Eustachian tube, the fluid, as secreted, escaped into the pharynx, and thus did not accumulate in sufficient quantity to exert enough pressure on the membrana tympani to cause its rupture, and yet enough to cause considerable pain. To these, Dr. Loewenberg proposed to add cases of inflammation of the mastoid cells. In such myringodectomy cuts short the inflammation and relieves the distressing pain. In spite of the lengthened discussion which ensued, little light was thrown on the question of which cases, among Dr. Guye's third group, were suitable for myringodectomy. As Mr. Dalby truly pointed out, most surgeons are agreed as to the advantages of the operation in the first two classes of cases, but the important question is by what signs or symptoms can we, in any case of dry proliferous catarrh, tell that such a case will or will not be relieved by the myringodectomy? It must be admitted that the experience of most English surgeons is so far against the operation in the third group of cases, and, as Dr. Pritchard pertinently asked, "Are we

justified in incurring the risk of making a patient worse for the very uncertain chance of making him better?" Not much information either was obtained as to the advantages of division of the tensor tympani muscle. No one was able to instance cases benefited by the operation, and Dr. Jones of Chicago did not consider the operation free from danger; while Dr. Cassells, in his long experience, had never seen a case in which he thought it necessary.

On Thursday Dr. Cassells read his paper on the Etiology of Aural Exostoses. The author drew a distinction between aural exostosis and hyperostosis. The former, he maintained, is a new growth, the latter a hyperplasm. They differ in origin, shape, structure, and number. We agree with the author in the main, but we cannot agree with him that "if ear disease exist with hyperostosis there is no causative relation between them; they exist altogether independently and apart from each other." Most aural surgeons must have seen cases in which it was obvious that hyperostosis followed, and was occasioned by, a purulent catarrh of the middle year. In the discussion which ensued the speakers did not draw the distinction between exostosis and hyperostosis, but discussed them both under the general term, "Exostosis." Dr. Guye believed that multiple exostoses never completely occlude the meatus; as soon as the tumours attain sufficient size to come in contact with one another they cease to grow, thus leaving a small central passage. Dr. Loewenberg mentioned a curious case, in which the exostoses, without touching, were connected with one another by thin bridges of bone. The treatment of hyperostosis by the dentist's drill was generally agreed to be the best. Dr. Pritchard, however, related a curious case, in which, after drilling into the tumour, it was subsequently treated with a weak solution of nitric acid. At the end of some two months or more the bone was found to be so much softened that he was able to break off the tumour. Dr. Knapp of New York gave the result of his very interesting examination of 250 skulls of the mound-builders of America. He found exostoses in forty-four; the exostoses were all rugged and on the posterior wall. They were supposed to be produced by the mechanical irritation of foreign bodies, long kept in the external auditory meatus. Dr. Gellé and Dr. Loewenberg arrived at opposite conclusions as to the frequency of aural exostosis in France, the former considering them rare, the latter common.

On Friday Dr. Gellé read an instructive paper on Nerve-lesion Deafness; and Dr. Stevens one on Certain Conditions of the Eyes as a Cause of Loss of Hearing by Reflex Irritation. Dr. Knapp recorded a case of loss of hearing from mumps, and thought that other diseases most likely to affect the portio mollis nerve were cerebro-spinal meningitis and syphilis. Dr. Barr more accurately classified the causes of nervous deafness into three groups:—1st, Affections of the tympanic cavity, involving secondarily the acoustic nerve; 2nd, syphilis; 3rd, hyperæmic disturbances. Dr. Knapp related some interesting experiments on the loss of vision and hearing following the use of large doses of quinine. The loss was temporary in both. In the case of vision the return of sensibility passed from the centre to the periphery, but did not reach completely to the periphery. The arteries of the retina disappeared. The veins were scarcely traceable, and the disc looked atrophic. The field of vision was narrowed on the inner side, not so much on the temporal. Colour perceptions were also diminished; objective symptoms in the ear were negative. He believes the poison acts centrally. Mr. Dalby probably expressed the opinion held by very many present, when he stated that although the effects of quinine on the ear, even in large doses, is temporary, the continued use of large doses does produce permanent impairment of hearing. Dr. Jones of Chicago, however, stated that he had never seen a case of the ill effects of the continued use of quinine, and believed that sufficient allowance is not made for the effect of the malarial poisoning. If quinine acts injuriously on the hearing, it would do so much as the long-continued use of any stimulant (such as tea, coffee, tobacco, &c.) would, by exhausting the nervous system.

On Monday Dr. Fournié read a paper on the Functions of the Eustachian Tube. He believes he has proved, by experiment, that one of the essential functions of the tube is to prevent unpleasant resonance of external and internal noises. This function assumes a permanent opening of the tubes, and he believes that the muscles which are usually considered dilatators are in reality obturators of the tube. Dr. Rumbull did not agree with the views of Dr. Fournié, but believes that the air in the tympanic cavity is always in a state of slight rarefaction. This keeps the membrana tympani tense and slightly concave. He believes that the tube is always slightly open, and not during deglutition only. He cited the following experiments in proof: 1st. If the limit of hearing be taken with a watch and the experimenter swallows with the nostrils closed, the sound of the watch is lost. If now the act of deglutition be performed with the nostrils open, hearing is improved, but is not so good as at first for some little time, showing that some air enters gradually after the act of swallowing. 2nd. If, after taking the limit of hearing, the tympanum be inflated by Valsalva's method, the hearing is diminished; on swallowing the hearing will improve, but will not reach the previous limit for some time. If we understood Dr. Rumbull right, we fail to see that these experiments prove his contention, and Dr. Cassells moreover made the curious statement, that if the air of the tympanum be exhausted more forcibly than can be done by swallowing, after the perception of the voice and ordinary sounds is lost, the watch can be heard more distinctly than before the experiment.

Next followed an instructive paper by Dr. Knapp, on the Cotton-wool Pellet as a Artificial Drumhead. He claims for it the following advantages:—1st. It improves the hearing. 2nd. It protects the tympanic cavity from the external atmosphere. 3rd. By absorbing secretions as fast as formed it aids the return of the tympanic cavity to a healthy condition. He believes the artificial drumhead acts on hearing, sometimes by pressing the body of the incus and the head of the malleus together, when they are separated by a thickened and rigid membrane; at other times by pressing on the short process of the malleus, it relieves too great pressure of the stapes on the fenestra ovalis, where, owing to adhesions, the handle of the malleus is drawn too much inwards. Dr. Knapp considers that the cases in which the most striking results are obtained by the use of the artificial tympanum are those in which the voice is heard at less distances than 20 ft. Various forms of artificial tympana were advocated and shown by members, thus proving that although the cotton-wool pellet is on the whole the best artificial drumhead, no one form will answer in all cases.

Dr. Gardner-Brown next demonstrated an ingenious method for estimating the hearing power in health and disease. The author has conceived the idea that the point in the lessening amplitude of the vibrations corresponding with the moment of their loss to the sense of touch in the thumb and finger of the examiner, forms an excellent and convenient standard of reference for the auditory perceptivity of the patient.

The space at our command prevents us from more than mentioning the remaining papers—viz., Objective Noises in the Ear, by Dr. Fitzgerald. The Accommodation of the Ear, by Dr. Gellé. Paretic Deafness, by Dr. Woakes. The Action of Syphilis on the Ear, by Dr. Pierce. Caseous Accumulations within the Middle Ear, regarded as a probable Cause of Miliary Tubercle, by Dr. Barr. Some difficulties presented in the Diagnosis, Prognosis, and Treatment of a certain form of Middle Ear Deafness, by Dr. MacBride. On the Prevention of Dumbness in those cases where it follows loss of hearing, by Mr. Arthur Kinsey. A Fluid Artificial Membrana Tympani, by Dr. Michelle. Among these we would call special attention to the valuable paper of Dr. Woakes, which was unfortunately taken rather late in the meeting, but which will well repay perusal; and also to the one by Mr. Arthur Kinsey.

The meetings terminated with a vote of thanks to the President, Mr. Dalby, and the two secretaries, Drs. Purves and Pritchard, for the admirable manner in which the meetings were managed. We cannot conclude without adding that a great deal of very valuable matter was brought before this section, and our only regret is, that the time at the disposal of the members was too short to allow full justice to be done to many of the papers read.

SECTION XII.—DISEASES OF THE TEETH.

The Dental Section opened auspiciously with an address from Mr. Saunders, the President, reported in our issue of the 6th inst., and an able paper by Prof. Owen, F.R.S., listened to by a crowded gathering of dental surgeons from America and all parts of Great Brtain and the Continent. The section may fairly claim to have done good work in adding to the knowledge of many stirring questions in dental surgery,

both scientific and practical. The first subject propounded was that of replantation and transplantation of the teeth, and was introduced by Dr. Magitot, who described his method of replantation and gave a record of ninety-two per cent. of successful cases. The general conclusion derived from the discussion which followed seemed to be that this operation should be adopted only when a tooth was otherwise in a hopeless condition; that the ends of the roots should be excised and smoothed; but that invariably successful results had been attained, when sound teeth had been accidentally extracted, and at once returned to their sockets.

An interesting summary of the experiences of Messrs. Clover, Braine, Bailey, and Coleman, read by the last-named, in the administration of anæsthetics at the Dental Hospital, Leicester-square, since 1868, shows a total of more than 20,000 cases. Chloroform, gas, ether, nitrous oxide, and ethidene were given without a single fatality resulting from their use.

Another most important subject—dental surgery in the Army and Navy—was brought forward, and it was strongly urged that a course of lectures on, with practical training in, the preservation of the teeth should be included in the special subjects at military and naval medical schools, so that the health of our soldiers and sailors should not be endangered by the wholesale extraction of teeth.

A paper was also read on Interrupted Second Dentition as a Cause of Reflex Constitutional Disturbance by Mr. Corbett.

A question of much interest to dental surgeons was debated during the most of one morning—the causes and treatment of premature wasting of the alveoli and loosening of the teeth; and various theories as to the causes were advanced. The edges of the alveolar sockets are implicated in the disease, and there is no doubt that the only efficient treatment is to scrape away with suitable instruments not only all tartar on the teeth, but also diseased portions of the socket until healthy bone is reached, and in addition to paint these portions with phenylic alcohol.

Mr. John Tomes, F.R.S., read an essay on Dental Education, which dealt most completely with the question, and was cordially accepted by the English, American, and foreign representatives, as the ideal system. Mr. Tomes pointed out that the preliminary examination in arts is the same for the licence in dental surgery, as for the membership, of the College of Surgeons of England, and that whilst most of the subjects in the two curricula are also the same, where they diverge the difference is one of kind and not of degree, both costing the same in time, labour, and money.

A subject of general interest was discussed in a joint session of the sections for Diseases of Children and for Diseases of the Teeth, when Dr. Magitot read a paper on Honeycombed Teeth as an Evidence of Infantine Convulsions. This produced a good discussion, and elicited from Mr. Jonathan Hutchinson an expression of his now well-known views about the teeth. He states that the true syphilitic teeth cannot be mistaken, the characters being most marked in the upper permanent centrals. The normal tooth when first cut has at its incisive edge the appearance of three denticles (described by Mr. Moon), but in the syphilitic tooth the middle denticle is absent, and this causes the tooth to appear pinched and conical. After twenty years' experience he states that though only, perhaps, present in one case in five, these teeth are certain evidence of hereditary syphilis. Honeycombed teeth are simply defective in structure, irrespective of shape, and Mr. Hutchinson believes this to be due to mercury given in infancy, be it for syphilis or other disorder.

In the discussion on the influence of septic agencies in causing caries of the teeth, Mr. A. Underwood and Mr. W. T. Mills read notes on their experiments, and showed some specimens of carious dentine and cementum in which the presence of bacteria and micrococci was distinctly and beautifully demonstrated under $\frac{1}{25}$ objectives. They found that they could produce apparent caries in teeth placed in meat solutions and kept warm, with abundance of bacteria and micrococci in the tubules and lacunæ, as well as in the fluid, which became acid, but that when other flasks and teeth were rendered aseptic by the usual methods, no caries was produced and no germs detected.

Other papers by Dr. Norman Kingsley and by Mr. Mummery, on the causes of the increased degeneracy of teeth at the present time, were read. The former states that the increase of nervous diseases correlates to deterioration of the teeth, each influencing, and in a measure causing, the other; whilst the latter imputes to the modern system of over-stimulating the nerve-power by too early education a defective power of assimilation and tissue formation, especially of the teeth.

The treatment of irregularities of the teeth and jaws was dealt with by several writers, and Mr. Coffin's system of expansion was justly appreciated. Mr. Coleman explains the vexed question of erosion of the teeth as being entirely due to friction over degenerated portions of tooth-substance. An attempt to explain abnormality of the maxillæ, anatomically, by Dr. Iszlai József of Buda-Pesth cannot well be summarised here. Altogether there has been a most satisfactory meeting of this section, and many more papers than have been mentioned were read, followed by pointed and lively discussions. Every afternoon there were demonstrations at the Dental Hospital of London, given by several English and American dental surgeons, who showed their methods of filling teeth, as well as various mechanical arrangements and improvements. The wonderful usefulness of the electric light, also of electro-motors worked by a Faure battery, was fully appreciated; and a dental engine, adapted to surgery by Dr. Bonwill, is well worth wide recognition.

In conclusion, the President and officers of this section are to be congratulated on the success of this the first occasion upon which dental surgery has received "international" recognition as an integral part of the medical profession.

SECTION XIV.—MILITARY SURGERY AND MEDICINE.

The section commenced its work by considering the subject of the Antiseptic Treatment of Wounds in the Field. As the result of the discussion, certain very definite conclusions were reached. Professor Esmarch, Surgeon-General Mouat, V.C., Professor Longmore, and Dr. Casson, all agreed that strict Listerism, involving the use of the carbolic spray, could not be attempted on the battlefield. Professor Esmarch stated that the chief object of the surgeon is so to treat the wound that no further harm may result to the patient during his transport to the dressing-station. Nevertheless, all agreed that the first dressing should consist of some antiseptic application, and various forms of dressing were recommended, capable of being carried in a small packet by each soldier on going into action. Esmarch's "first dressing for the battlefield" is too well-known to need description. Dr. Port advocated a dry, absorbent cotton wadding, by which the fixation of carbolic acid could be secured, and recommended that the pad, &c., should be carried in a small tin case; but we think the objection of Surgeon-Major Melladew—namely, that if struck by a bullet, particles of the casing itself might aggravate, or inflict a serious wound—a very valid one. Professor Reyher was alone in recommending strict Listerism at the dressing-station. His results during the Russo-Turkish war, in which strict Listerism was employed, whereby he was enabled to perform resection of joints at the dressing-station, are very remarkable; but then we must recollect that he enjoyed exceptional opportunities, and was furnished with equipment and assistants such as do not ordinarily fall to the lot of the army surgeon on the field. But this method of treating wounds has long been employed by our army surgeons. Surgeon-General Mouat, V.C., of whose immense experience on the actual field it is unnecessary to dilate, mentioned that during the New Zealand war not a case of pyæmia, hospital gangrene, or erysipelas occurred in the whole campaign; the wounds were treated by Condy. Again, as far back as the Crimea, Dr. Mouat had treated his wounds on a disinfecting plan, using a solution of creasote in acetic acid with great success. At the field hospital, on the other hand, Listerism in all its details can probably be carried out, especially if the hospital be in a town.

At the next meeting, on the 4th inst., a most practical paper was read by Professor Esmarch on the Treatment of Injuries of the Bloodvessels in the Field. He stated that all tourniquets should be replaced by elastic tubes, by which means effectual compression of the vessels can be secured until the wounded man be brought to the lazaretto. The tourniquet brace invented by himself supplies this want. The vessel is then to be ligatured above and below the wounded point, the most rigid antiseptic precautions being employed. As regards the use of india-rubber in tropical climates some difference of opinion existed. Surgeon-Generals Fayrer,

Maclean, Hunter, and Mouat had all found india-rubber useless under this condition. Other observers had noticed the contrary, and, as Surgeon-General Partridge remarked, the contrariety in opinion is probably due to the fact that there is some element in the preparation of the india-rubber present causing the material at one time to degenerate, at another to remain good; and he suggested that probably the excess of sulphur should be got rid of in the preparation. As a substitute for india-rubber tubes, Surgeon-General Billings suggested the use of small spiral metallic springs.

The subject for discussion on the 5th instant was that of the Transport of Sick and Wounded Troops in time of War. Papers on this subject were read by Dr. Gori, the Professor of Military Surgery and Medicine in the University of Amsterdam, Dr. Cunha Bellem of Lisbon, and Dr. Fagan of Belfast. Dr. Gori and Dr. Cunha Bellem both drew attention to the costliness and difficulty of maintenance of special constructions. Dr. Cunha Bellem urged as the type that a simple and portable model should be constructed capable of being borne by regular bearers, or of being accommodated to the wheeled modes of transport of the district; also that all the baggage carts and ammunition waggons should be so constructed as to be capable of being used for the transport of the wounded. Dr. Gori laid stress also on the training of the bearers—a point also insisted on by Surgeon-General Röth, whose remarks on this subject, and on all others on which he spoke, were characterised by the admirably practical ends he advocated. There can be no doubt that, as Surgeon-General Mouat, V.C., asserted, a model for transporting our wounded, which shall combine simplicity, cheapness, and portability equally by bearers or in carts or railway waggons, has yet to be constructed. No one, strange to say, spoke of the dhooly. The main difficulty the English surgeon has to contend with in the transport of the wounded seems to be that the battlefield lies not only in civilised countries, as is more generally the case with continental nations, but also in uncivilised. Such a waggon as the new pattern ambulance waggon of the British army would have been perfectly useless in the early stages of the Afghan war. There were no roads leading up to the mountain passes. The new pattern ambulance stretcher, moreover, is little else than a gimcrack plaything. The legs and joints of the apparatus would, we apprehend, soon be knocked to pieces during the rough usage of a campaign. There can be no doubt that the most comfortable and portable method of transport yet constructed is the dhooly of Surgeon-Major Hamilton, which has been adopted by the Indian Government for service in India. We see no reason why this dhooly, which is capable of being used as an ordinary stretcher, should not by a simple contrivance be adapted for insertion into the ambulance waggon.

Dr. Gori having made reference to the death of Dr. Otis, Surgeon-General Longmore referred to it in the graceful and feeling diction for which he is justly known. Dr. Billings replied on behalf of the medical department of the United States Army.

On Saturday, the 6th, the main discussion turned on the Etiology of Enteric Fever in India. The view of Surgeon-General Maclean that enteric fever only arises from pythogenic causes cannot be maintained. Surgeon-General Fayrer, Surgeon-General Hunter, and Dr. Norman Chevers as the result of their unequalled experience thoroughly disbelieve that all cases of enteric fever are due to filth causes, and to a specific entity formed in the patient's body, but that there are unquestionably cases of atmospheric or climatic origin. Of this we ourselves have no doubt. Surgeon Martin put forward in his paper the view that in consequence of the climatic condition of India, an excess of work is thrown on the hepatic system, causing first of all an increased activity of its function, followed by a reaction in which the liver, so to speak, does not come up to time. Coincidently with this falling off of the hepatic function, or vicariously for the insufficiency, certain intestinal glands become inordinately active, resulting at length in the development of the inflammation peculiar to and pathognomonic of enteric fever. This very ingenious theory certainly serves to explain those frequent cases of enteric fever in India which can in no way be traced to filth contamination.

The nature of the so-called "Typho-malarial" fever was also discussed. Dr. Scriven, whose researches in typhoid fever in India are so well known, stated that persons who have been seized with malarial fever are particularly liable to typhoid, and that patients recovering from typhoid are often attacked by intermittent fever. The general opinion shows that in malarious countries the malaria cropped out during the development of other diseases, and equally so during enteric fever. With regard to the question of natives being exempt from typhoid fever, Surgeon-General Hanles had found no race or sect exempt, but that perhaps natives do not suffer quite as frequently from this as from other fevers. On account of the prevalence of enteric fever amongst young soldiers in India Surgeon-General Maclean urged that young soldiers, on landing in India, should be sent to hill stations.

The subject for discussion on the 8th inst. was the Influence of the Contagious Diseases Acts on the Prevalence of the Venereal Affections among the Troops serving in the United Kingdom. The subject was dealt with chiefly from a statistical point of view. The paper on the subject was read by one so distinguished in statistics as Inspector-General Robert Lawson, and, as on all other occasions, the vast benefit of the Contagious Diseases Act, not only on the prevalence of all forms of venereal disease among the troops, but also among the civil population of the stations where the troops have been quartered, was abundantly proved. Thus, in comparing fourteen stations under the Acts and fourteen not under the Acts during the periods 1861–66 and 1867–72, a marked diminution of the number of admissions in the latter period of six years, when the Act was in full force.

Surgeon Myers, of the Coldstream Guards, in addition gave his results from an examination of the subject from small figures. The Guards stationed at Windsor formerly suffered immensely from syphilis. Immediately on the introduction of the Act at Windsor diminution set in, and the Guards are practically without syphilis at Windsor. No corresponding diminution has occurred amongst the Guards stationed in London, where the Act is not in force. Surgeon-Generals Mouat, V.C., Gordon, and Röth, of the 4th German Army Corps, abundantly testified to the overwhelming benefit of the Acts, Surgeon-General Röth stating, in addition, that the one thing German scientific men could not understand was that there should be any discussion at all on the subject. It is needless, of course, to say that this conclusive reasoning did not silence that obtrusive clique who persistently repeat incorrect assertions, which they vainly imagine are arguments, for the repeal of the Act. Worsted in debate, all they could do was to calumniate the officers of the Army Medical Department, and in such a manner as to call forth from Professor Longmore and Surgeon-General Röth a dignified and scathing rebuke.

On the afternoon of the 8th, Sir Joseph Fayrer pointed out clearly the various conditions produced by the effect of the sun in tropical climates. These are chiefly three: simple syncope from exhaustion caused by heat; a condition analogous to shock due to the action of the direct rays of a powerful sun on the brain and cord, and overheating of the whole body from either the sun's rays or from the high temperature produced by them, causing high thermic fever. Concerning the grave prognosis in the latter condition great stress was imposed. Grave structural changes are produced inevitably in the nerve centres. The truth of this was testified to by Dr. Yandell of America, Drs. Christie and Ewart, according to whose experience the character of the individual affected always became changed after so-called recovery. Mania and epilepsy also are most liable to follow, and the practical outcome of these facts was expressed in the opinion that no one who had ever had a real attack of coup de soleil ought to be allowed to return to India. Dr. Ewart especially pointed out that in the treatment of this grave form the employment of ice-baths, and not simply of cold water, is necessary. As regards the different effects of heat on a native of the tropical climate and Englishmen, it was remarked by Sir Joseph Fayrer, that although a native may be more tolerant of the direct rays of the sun than an Englishman, yet if both be shut up in a room having a temperature of 120° F., the Englishman will live longer, because he is of a stronger constitution.

August 9th, the final day of the sitting, was devoted to the consideration of a paper by Inspector-General Macdonald, on the best system of meeting the needs of men wounded in action on board modern ships of war. The author of the paper advocated a fixed and settled system, but the majority of the speakers agreed that such a system would be impossible on board ship.

Professor Longmore then read a paper detailing some new facts concerning the different effects on bones produced by Henry-Martini to Enfield bullets. He found that in the

former case a larger proportion of displaced fragments retained their periosteal connexions than in the latter; and that although long fissures in the bone might occur, extending completely through the apophysis, yet that the synovial membrane of the joint might remain intact. This points to the urgent necessity of immobilising such fractures from the outset; and the question also arises, as pointed out by Surgeon-General Mouat, how the extent of fissuring would influence the height at which in any given case amputation would be performed. Finally, Surgeon-Major Sandford Moore, in a paper on the Internal Organisation of the Army Hospital Corps, drew attention to the undoubted fact that, for the perfect working of the corps on the battlefield, it is absolutely necessary that the drivers, &c., of the transport of the corps must be men of the corps itself.

A large number of the members of the section proceeded to Aldershot on the 10th, and witnessed manœuvres admirably executed by the officers and men of the Army Medical Department and Army Hospital Corps, under the command of Surgeon-Major Sandford Moore, commanding the depôt. The various sword, stretcher, rifle, and litter exercises followed, after which the bearer company filed past in column of route to the exercise-ground, and went through their various manœuvres.

At the luncheon at the Army Medical Mess, Surgeon-General Röth, of the 4th German Army Corps, expressed in eulogistic terms his satisfaction at what he and his foreign brethren had seen; and wished the Army Medical Department success in the active movement it was making to advance the position of the military medical officer.

SECTION XV.—MATERIA MEDICA AND PHARMACOLOGY.

This section has been well-attended during the week, and several interesting papers and discussions have resulted.

At the conclusion of the President's address on the opening day two short papers were read, one by Dr. William Squire on Bromide of Ethyl, and the other by Dr. Milner Fothergill on the Utility of Strychnia as an Expectorant. Dr. Lauder Brunton said he could fully confirm Dr. Fothergill's statement that strychnia was a powerful stimulant of the respiratory centres, and he often employed it with success in the treatment of the night-sweating of phthisis. He considered that the pathology of the night-sweating of phthisis admitted of a very simple explanation. The respiratory centre becomes exhausted by reflex irritation from the lung, so that it no longer responds so readily as it should to the stimulus directly applied to it by carbonic acid in the blood circulating through the medulla and spinal cord. In consequence the blood becomes more or less venous, and to this venosity and the consequent imperfect tissue-change the nervous and muscular exhaustion and prostration observed as an accompaniment of night-sweating was attributable. When a dose of strychnia or nux vomica is administered at bedtime, the excitability of the respiratory centre is stimulated, so that any excess of carbonic acid increases its activity, and thus the accumulation of carbonic acid is prevented, and the sweating checked. Picrotoxine is also a powerful stimulant of the respiratory centre, and this may explain the success which has attended its administration in the night-sweating of phthisis. The cases in which strychnia is specially indicated are those in which the cough is not so violent as to be distressing, and where the general debility and weakness of the circulation and digestion are prominent symptoms.

Professor Eulenburg's paper on the introduction of an International Pharmacopœia excited great interest, and gave rise to an animated discussion, in which many visitors from the Pharmaceutical Congress took part. Dr. Prosser James, Lecturer on Materia Medica at the London Hospital, said that the difficulties in the way of substituting a single Pharmacopœia—the British—for the three authorities which preceded it in the United Kingdom had been long enough overcome to encourage the advocates of an international formulary. The Pharmacopœia Germanica had also replaced diverse publications with benefit, and, so far as was known, with very little inconvenience. An international Pharmacopœia was only another step in the same direction, and the idea had been endorsed by various Congresses and a certain amount of work done. The dangerous differences existing in the strength of powerful preparations was a strong argument in favour of the movement. If one standard for the most important remedies could be accepted in all civilised countries the gain would be great; not only would prescribing become safer, but pharmacology and pharmacy would advance more rapidly, and a knowledge of the art of healing become more cosmopolitan. Two plans had been suggested for attaining the object: one to restrict the work to a small number of potent remedies in general use; the other to enlarge its scope into something like a universal formulary. The former plan was apparently the easier, but the latter had much to commend it. There were many questions of detail which would have to be considered—the language in which the work should be published, the nomenclature, arrangement, standard of weights, measures, temperature, &c. The sooner such a work was commenced the better, and no body was so competent to appoint a committee for the purpose as the International Medical Congress. The International Pharmaceutical Congress had within the last few days appointed a permanent International Commission to prepare a restricted pharmacopœia of the more potent remedies. It would be well for the Medical Congress to appoint a similar commission to co-operate with them, and even to proceed further and prepare a catalogue of materia medica. In this way steps would be taken which would ultimately lead to the introduction of a universal pharmacopœia. Dr. Rawdon Macnamara pointed out the absolute necessity of adopting the Latin language for the pharmacopœia, and strongly urged on the section the necessity of petitioning Parliament to make the use of the metric system of weights and measures compulsory. The debate was continued by Professor Bentley, Mr. Greenish, the president of the Pharmaceutical Society, Mr. Schaht of Clifton, Professor Stokvis and others, and finally it was resolved to appoint a committee, consisting of two delegates from each country attending the Congress, to co-operate with the committee appointed by the Pharmaceutical Congress with the view of taking such steps as might be necessary to draw up a scheme that would ultimately found the basis of an International Pharmacopœia. At a subsequent meeting the following names were submitted for consideration, it being understood that the list was not final, and that it was incomplete:—France: Dr. Dujardin-Beaumetz, and Professor Vulpian, the Dean of the Medical Faculty of Paris. America: Dr. Wood, Professor Austin Flint. Prussia: Professors Leibreich and Rossbach. Holland: Professors Stokvis and Fokker. Switzerland: Professor Prevost. The representatives of Belgium, Italy, Greece, Spain, and Portugal were left to be nominated at a future meeting. For England the representatives would be Dr. Fraser and Dr. Lauder Brunton; and as it was desirable to have some central organisation, the present Council of the Section would continue its existence, although the bulk of the work would probably fall on the secretaries, Professor Roberts and Dr. Buchanan Baxter. Professor Quinlan, in an amusing speech, urged on the section the necessity for separate representation for Ireland; but Professor Wood stated that if the plea were allowed, he must ask for a representative for each of the United States.

Professor Plugge's paper on the Lethal Dose of different Aconitines gave rise to a prolonged discussion, in which M. Petet and others took part. There was a general consensus of opinion that the term aconitia, unqualified in any way, might mean anything or nothing. Some specimens of aconitia were, at least, eight times as strong as others, even when prepared by well-known firms. For external application it was a matter of comparatively little importance, but when the alkaloid was prescribed for internal administration, as was often the case on the Continent, it was a serious matter. Tincture of aconite was a reliable preparation, and could be made of uniform strength. Other alkaloids—pilocarpine, for example—varied much in activity. A specimen of nitrate of pilocarpine, obtained in Rome, was found to be of less than half the strength of some prepared by Mr. Martindale of London. Unless some definite arrangement could be made as regards the purity and strength and activity of aconitia, physicians would have in self-defence to abandon its use.

On Saturday the subject announced for discussion was a paper by Professor H. C. Wood of Philadelphia on the Nature and Limits of Physiological Antagonism, the speakers appointed being Professor Rossbach of Wurzburg and Dr. Murrell of London. At the hour appointed for the commencement of the proceedings neither Professor Wood nor Professor Rossbach could be found, and the President called on Professor Ringer to open the debate. After a few words from Dr. Ringer, who said that he had had no intention of

speaking, and was hardly prepared to introduce a subject of such importance and magnitude, Dr. Murrell said that it was impossible to arrive at any definite conclusion or to obtain anything like precise information from observations made on man alone. It was difficult to distinguish between antidotism and antagonism. It was easy enough to arrest the tetanus of strychnia by paralysing the motor nerves with curare, but this was not antagonism, for the two drugs acted on totally different structures. The great difficulty was to make absolutely sure that both drugs acted on the same part. This could only be done by working on substances consisting of protoplasm in one form only. The existence of antagonism, and even of mutual antagonism, could be shown by acting on cilia with acids and alkalies alternately. But still more conclusive proof could be obtained by working with Roy's apparatus on the ventricle of the frog's heart. Many difficulties had been experienced in the use of this method, but since the introduction by Dr. Ringer of dried blood and saline, they had been considerably lessened. Dr. Ringer had recently shown that a complete and mutual antagonism existed between chloroform and ammonia and between iodoform and ammonia. Dr. Murrell then exhibited a series of tracings obtained with the same apparatus, and illustrating the mutual antagonism of extract of muscaria and atropia, and of extract of jaborandi and atropia. Some of these tracings were obtained with the whole ventricle, and to these objection might possibly be made on the ground that there was no absolute proof that the antagonism was exerted on identical structures, but other tracings were taken solely with the lower two-thirds of the ventricle which were known to be free from nervous ganglia, and to these this objection could not be urged, and they might be taken as absolute and positive proof of the existence of mutual antagonism. What was the nature of the molecular change on which these phenomena depended it was impossible to say. The drug might act as a ferment, or possibly it might enter into actual chemical combination with the elements of the tissue, and the last view was now commonly adopted. The discussion was continued at some length by Dr. Dujardin-Beaumetz of Paris, Dr. Dudgeon, Dr. Edward Blake, Dr. Wilberforce-Smith, Dr. Hayward of Liverpool, Dr. M. M. Eaton of Cincinnati, and others.

The paper by Dr. Dujardin-Beaumetz on Pelletierine, Valdivine, and Cedrine, the active principles of pomegranate root and cedron seeds, attracted considerable interest, but from the complexity of the subject excited no discussion.

Dr. William Squire's paper on Pilocarpine contained nothing that has not long been the common property of the profession, but nevertheless gave rise to an interesting discussion. Dr. Jacobi of New York detailed at some length his experience of this drug in the treatment of diphtheria, and Professor Quinlan of Dublin, who was the first to introduce jaborandi in Ireland, advocated its use in large doses. Dr. Henri Huchard of Paris said he had obtained excellent results in the treatment of diabetes, and also as a means of arresting the night-sweating of phthisis. In the latter case he regarded it almost as a specific. Mr. Martindale objected to a statement that had been made that preparations of jaborandi, from their liability to contain a second alkaloid, jaborine, were less safe and less certain than pilocarpine. Pharmacists hesitated to accept the evidence that had been adduced in favour of the presence of this in true jaborandi. Harnack and Meyer obtained it from a concentrated mother liquor from which the pilocarpine had been removed. They admitted that Piper reticulatum and other species had been used in addition to true jaborandi in its manufacture. Preparations of jaborandi, such as the tincture or liquid extract, would be more reliable than even pilocarpine obtained from such a source. Nothing so definite as jaborine had as yet been isolated from the uncrystallisable residue. Mr. Gerrard agreed with Mr. Martindale that Harnack and Meyer's conclusions as to the presence of a second alkaloid in jaborandi were fallacious. Harnack and Meyer made their preparation from mixed residues of rutaceous and piperaceous plants, the latter probably causing the pilocarpine to be impure. With equal show of propriety one might mix Calabar bean and belladonna and call the alkaloid obtained from them a new principle. It is true, indications of the existence of a second alkaloid have not been wanting, but the results from the destructive agency exercised by the acids and alkalies used in alkaloidal manufacture. Mr. Gerrard had experimented on residues of pilocarpine and exhausted them entirely of their alkaloid, but the resultant had the chemical and physical properties of pilocarpine only, and when submitted to Professor Ringer gave no other physiological action. The presence of a second alkaloid had not been satisfactorily demonstrated.

On Monday a resolution on the subject of Experiments on the Lower Animals was proposed by Professor Stokvis of Amsterdam, and seconded by Dr. Lauder Brunton. Professor Stokvis in moving the resolution said that it was a matter of surprise to hear that in a country which had just raised a monument to Harvey an attempt should have been made to arrest the progress of science by legislation which was a disgrace to civilisation. He had much pleasure in moving that "This meeting declares its opinion that the progress of science cannot be ensured without experiments on animals." Dr. Lauder Brunton in seconding it said that without experimentation no real progress could be made in medicine; it would be impossible to arrive at definite facts, all knowledge would be theoretical, and patients must of necessity suffer. His own observations on cobra poison, which had been undertaken in conjunction with Sir Joseph Fayrer, had been brought to an abrupt conclusion by the action of the Home Office. Dr. Dujardin-Beaumetz of Paris, in moving that the resolution should be conveyed to the President of the Congress, with a request that he would lay it before a general meeting of the Congress, said that it was criminal to give drugs with the properties of which we were ignorant to patients, and that it was an absolute necessity that they should be administered first to animals. This resolution was seconded by Professor Rossbach of Wurzburg in a powerful speech. An amendment was moved by a gentleman in the audience, but found no seconder. Professor Wood of New York said that it was a shame and a disgrace that it should be necessary in an intellectual country such as England to have to pass such a resolution. If any progress were to be made in the relief of pain and suffering it must be by experimentation. In America an attempt had been made to get up a vivisection agitation, but there had quickly been a reaction, and the Legislature, by an overwhelming majority, refused to pass a law which would cast a stigma on scientific men. Professor Quinlan of Dublin said there was more cruelty practised in one afternoon at Hurlingham than in a century of vivisection. Dr. Farquharson, M.P., said that the Report of the Royal Commission had conclusively shown that there was no abuse of vivisection in this country, and the Government had taken great pains to legislate for a condition of things that existed only in their imagination. Much of the present popular feeling on the subject was the result of imperfect information. All necessary experimentation by properly qualified men should be allowed without hesitation. Both resolutions were carried in a large meeting with only one dissentient.

Dr. Mitchell Bruce, in reply to a paper by Dr. Dujardin-Beaumetz on the remedies used to promote absorption of inflammatory and other morbid products, spoke at some length of the action of mercury and iodide of potassium in removing syphilitic and other tumours. He considered that the employment of local absorbent remedies was too much neglected.

The final meeting of the section was occupied by a long and interesting discussion on three papers bearing more or less on the same subject. They were on the Action of Medicines upon the Heart and Bloodvessels, by Professor Boehm of Marburg; on the Action of Atropia and Muscarin upon the Heart of the Frog, by Dr. W. H. Gaskell of Cambridge; and on the Action of Duboisin on the Circulation, by Mr. G. A. Gibson of Edinburgh. Dr. Murrell, after alluding to the different modes of investigating the action of drugs on the heart, expressed his surprise that Professor Boehm should have supposed that all anæsthetics had a similar action on the cardiac apparatus. Chloroform slowed the heart, and weakened, and finally arrested it in diastole; whilst ether quickened the ventricle, and exerted no paralysing action. He was surprised, too, that no reference should have been made to the action of nitro-glycerine on the bloodvessels. Dr. Leech of Manchester gave some account of his experience of nitro-glycerine in the treatment of angina pectoris, and of certain observations he had made in a case recently under his care. Professor Rossbach of Wurzburg read a paper on Papayotin. Dr. Jules Worms of Paris made a short communication on the Action of Sulphate of Quinine in Glycosuria. After a vote of thanks to the President and secretaries the proceedings terminated.

THE MUSEUM.

LIVING examples of rare or very interesting diseases were shown every morning during the meeting of the Congress, in a room adjoining the Museum, at 9.30 P.M.; and these demonstrations were largely attended, forming one of the most successful features of the Congress. We give below notes of some of the cases shown.

During the week numerous interesting cases of disease were exhibited in the Museum. Dr. Duckworth showed a group of well-marked cases of true gout with uratic deposits, and Mr. Hutchinson, on the same day, showed several examples of the same disease and rheumatic arthritis, separately and in association. Messrs. Macnamara, Page, and Treves exhibited cases of joint disease in tabes dorsalis. Mr. Page's case was remarkable, for the joint-affection (which involved the foot) was present together with the Argyll-Robertson symptom and absence of knee-jerk, but without any ataxy. The patient had had severe pains in the limbs and vomiting some time previously. Dr. Ord showed a number of cases illustrating myxœdema, illustrating the disease in various stages of progress. Dr. Barlow exhibited a case of aphasia, with right brachial monoplegia in a boy, the subject of hereditary syphilis; Dr. Sturge some cases of muscular atrophy, and Mr. Hutchinson two cases in which rupture of the brachial plexus was diagnosed.

Cases of True Gout were exhibited by Dr. Dyce Duckworth. A female, aged eighty-one, inherited gout, first attack at seventy years of years; other cases, some of acquired, others of inherited gout, showing its various causes, signs, and combinations.

A Case of Scar-Keloid was exhibited by Dr. Dyce Duckworth. A male, aged fifty, was blistered over præcordia in 1871; nine months later lines of pink keloid growth began to appear in the scar left by blister, but seven years later began to subside and be replaced by pale scar tissue.

Cross-legged Progression was exhibited by Mr. Clement Lucas. Two cases; one in which the hip-joints are dislocated, the other in which they are not.

Cases of Leprosy.—Mr. Hutchinson exhibited three patients, showing both tubercular and anæsthetic changes, and a case of recovery from severe tubercular leprosy. Mr. Startin also showed a case of leprosy with the usual signs of the disease, in which there was no distinct evidence that it arose from a fish diet.

Cases of Myxœdema were exhibited by Dr. W. M. Ord. The cases were excellent illustrations of all the features of this peculiar malady, and attracted considerable interest.

Three cases of Charcot's joint disease. 1. Exhibited by Mr. Herbert Page; a man, aged thirty, with absence of patellar tendon-reflex, the Argyll-Robertson symptom, shooting pains, and gastric crises. There was thickening of the tarsal bones on both feet, which were freely movable on each other with bony grating; no pain; several "gathered" corns on the soles. 2. Exhibited by Mr. C. Macnamara, a man, aged fifty, with distinct evidence of locomotor ataxy. The femur dislocated on to the ilium, freely movable in all directions without pain. There is also bony thickening on ilium and rising up over brim of pelvis. No pain. 3. Exhibited by Mr. C. Macnamara, a man, aged forty-eight. An almost exact counterpart of the above; symptoms of ataxy not so distinct.

Two cases of Osteitis Deformans (Paget) were shown.

Case 1, under the care of Mr. Frederick Treves. The patient was a woman, aged forty-nine. Five years ago she began to notice some sense of weariness in the legs on walking, and then discovered a "bending" of the left shin. The case now presents a typical aspect. The left tibia is enormously thickened, and bends forwards and outwards. The right femur is bent forwards at its upper part, and is greatly thickened. The right tibia and left femur are but little affected. The spine is much curved in the upper dorsal region, and in five years she has lost four inches in height. The skull is enlarged, and presents a very characteristic outline. Of the bones of the upper extremities only one is affected—viz., the left ulna. The bone is much thickened, and curved backwards. The movements of the hand are, however, not impaired. The affection is perfectly painless, and the patient's general health good.

Case 2, exhibited by Mr. Symonds, surgical registrar of Guy's Hospital. The patient, a widow, aged seventy. At the age of forty-nine the tibiæ began to curve and become prominent, next the femora. Twelve years ago the left radius began to thicken and twist, and now it is so much elongated and curved that the hand is fixed in a position of complete pronation. The head and spine are unaffected.

Case of Aphasia, exhibited by Dr. Barlow, with slight facial paresis and brachial monoplegia on the right side, in a boy aged ten years, the subject of congenital syphilis. There was a definite family history of syphilis and of extensive scaling rash and snuffles in the case of the boy, and he had well-marked pegged upper incisors. His paralysis had come on gradually—first, loss of speech, then drawing of the face, then paresis of the hand. No convulsion or apoplectic seizure. The aphasia was at first typical, but at the time when shown the boy did not use the wrong words, but found difficulty in remembering the right ones. Could say anything by way of imitation. The condition was believed to be due to partial occlusion of some branches of the left middle cerebral artery from syphilitic deposit.

Two cases of Dactylitis Syphilitica (Taylor) were shown by Mr. Dawson Williams.—Case 1, under the care of Mr. Churchill. A male child, aged two years and four months; no history of syphilis to be obtained. Nearly all the metacarpal and phalangeal bones of both hands, the first metacarpal bones of both feet, and the upper ends of the radius and ulna on both sides, as well as the nasal bones, were affected with a chronic inflammation, which had persisted for about a year, and had in the hands, feet, and nose advanced to the suppurative stage. —Case 2, under the care of Mr. Walter Pye. A male child, aged one year and ten months; a distinct history of syphilis in the parents; the metacarpal bones and phalanges of one hand, to the number of five altogether, were affected, as also the upper end of the radius.

A case of Syphilis in an Infant (? acquired) with osseous thickening in the neighbourhood of the epiphyses, was shown on August 8th by Dr. H. Radcliffe Crocker. Eliza P——, aged one year and eleven months, was apparently quite healthy up to the age of nine months; suckled up to seven months. When brought to the East London Hospital for Children she had a papular and dry syphilide over the whole body and hoarse cry. Six months later she was again brought with inflammation at the epiphyses of the lower end of the left humerus at the junction of the olecranon process of the right ulna and the upper end of both tibiæ. The family history opens up a possibility of the disease being acquired. The father is a sailor, and returned home, after a long absence, six weeks after the birth of the child. The mother had hitherto been quite well, but six months after his return symptoms began, and when she came to the hospital there was well marked syphilis in the shape of rash, bone pains, sore-throat, &c.

A case of Varicose Veins of Abdominal Wall was exhibited by Mr. Frederick Treves. A lad, aged seventeen, was kicked in the lower part of the abdomen by a horse ten years ago. Some months after he noticed commencing varices in the left leg; the condition gradually extended. Now the left internal saphenous vein is extremely varicose, and ends as a huge mass at the saphenous openings. The superficial epigastric and superficial circumflex veins of the left side are also very varicose. The vein that runs from the axillary vein to the femoral (described by Mr. Fenwick in the anatomical section) is very conspicuous. He has a double varicocele; no hæmorrhoids; viscera healthy. It is difficult to understand where the obstruction exists, if there be obstruction. If in the vena cava, it is hard to perceive why the right leg should be quite sound; if in the common iliac vein, the double varicocele is mysterious.

PROPOSED CONVALESCENT HOME.—Alderman Sir Sydney Waterlow (the treasurer of St. Bartholomew's Hospital) has received from Mr. Charles Kettlewell, of Armadale Castle, Island of Skye (a governor of the hospital), a communication, offering the sum of £10,000 for the erection of a Convalescent Home for St. Bartholomew's Hospital, as a memorial to his late brother, who died of fever in Naples. Mr. Kettlewell has made the offer conditionally upon a suitable site being found within a reasonable time. Two or three promises of £500 each have already been received, and it is proposed to appeal to the friends of this ancient and noble foundation to raise about £6000 for the site necessary for the convalescent home.—*City Press.*

MR. E. DAY, late Medical Officer for the Fifth District of the Barton Regis Union, has received a superannuation allowance of £60 per year.

THE LANCET.

LONDON: SATURDAY, AUGUST 20, 1881.

THOSE who were unable to attend the meeting of the Congress have no doubt read the addresses which have appeared in our columns and the accounts of the meetings and work done in the sections, which we are able to complete in the present issue. Although the entertainments were more numerous and brilliant than any former Congress has enjoyed, and in spite of the most profuse private hospitality, the prominent characteristics of the late meeting were the diligence displayed, the energy with which the sections, one and all, were conducted, and the amount and value of the work done in them. Even if this had not been the case—if the sections had been deserted and the debates left to those most ready and least fit to conduct them—we should scarcely have had reason to speak of the meeting as unproductive of good, for there would have remained the private talks, the value of which, always great, is yet incapable of being measured. The late Congress will be found to have done good in several ways. There has been a direct impartation of knowledge to the large number of members, and the instruction thus conveyed has been attended with such striking surroundings that it will be indelibly impressed on the mind. In several of the discussions, which on the whole have been ably sustained, there has been a useful clearing of ground, certain facts have been established, and opinions generally received, and thus a common standpoint has been adopted from which to push on to the yet unknown. And through these discussions, the statements of views more or less novel, and by professional intercourse, a great spur has been given to all workers, the whole results of which we shall never be able to compute. Yet no doubt within the next decade there will be certain definite advances in the science and art of medicine which will be traceable clearly and distinctly to this Congress. There is another view of the Congress to be taken which equally shows its importance. It has demonstrated to the world the progress that medicine has recently made, that it is advancing because it has become more scientific, and that the only great advances yet in store for it must result from the successful application of the same methods. It has shown the lay world what a noble profession is that of medicine, not only in numbers, but in the proportion of hard and original workers and thinkers it possesses, in the greatness of its work, and in the manner in which the work is being undertaken and pushed on, and the welfare of the whole human race promoted. We do not care for the idle curiosity excited for a short time by the fact of a meeting of over three thousand doctors, but we are quite entitled to rejoice that such an opportunity has arisen of letting the world know what the profession has done, how it has done it, and what it has still to do.

The meeting having been such a success, and, as we have tried to show, productive of so much good in the future, it is naturally wished to repeat the experience. And we accordingly hear that the Executive Committee is considering where the Congress shall meet two years hence. We doubt, however, whether the too frequent meeting of the Congress would be wise. Certain it is that we could not repeat the late meeting even in London so soon as that; much less, then, can it be done in any other town with fewer attractions and less power. And there are two reasons why it is undesirable to attempt to repeat often these great international gatherings. One is that scientific work must be conducted quietly, deliberately, and not with the distractions of publicity or inaccuracies attendant upon a hurried announcement of results. Again, science advances slowly as well as quietly; occasionally a few great strides are made within a short space of time, but then follow long years of patient working and waiting. A review of the great addresses at the late meeting will illustrate this: only two of them attempted to deal with modern advances in medical knowledge. M. PASTEUR spoke of his recent brilliant discoveries, and Herr VOLKMANN reviewed the results of the introduction of the antiseptic method of treatment ten years ago; and possibly we are quite within the mark when we say that such a review has only been practicable, or at least profitable, quite recently. But it must not be lost sight of that the great element of usefulness in these Congresses lies in the large number attending them. First, because the good results are in this way spread over a much larger area, but chiefly because only in a very large gathering do all or nearly all those qualified to take part in such meetings assemble. An International Medical Congress ought whenever it meets to be a great power, and for this it requires great men; and we confess to being jealous and fearful lest a too frequent meeting should lessen its value and importance, and hand over the work to second-rate men. For ourselves, we think that a Congress held every ten years in one of the large five or six European capitals or in America, which could hope to rival each time the gathering just dispersed, would be really more worthy of the name and authority of an International Medical Congress than a smaller and more local gathering held biennially. Were such meetings the only means available of spreading our knowledge, and of knowing what others are doing, the case would be different. But every civilised country that sends members to the Congress has Medical Societies of its own, and Dr. BILLINGS'S statistics are convincing proof of the extent of medical literature.

As we announced last week, the Executive is already busily engaged with the preliminary arrangements for publishing the volumes of Transactions of the Congress. We trust that this work will be pressed on with all possible speed. A considerable part of the real value of the meeting will depend upon the rapid issue of the Transactions. The labour is no doubt heavy, and particularly arduous when it has to be taken up just after the excitement and work attending the meeting. But we live so rapidly that unless published within a few months the volumes will run considerable risk of remaining unread. And when we remember that many communications were only read in abstract, that a paper worth hearing is always worthy of careful reading, and that in every one of the fifteen sections more or less valuable papers were being read each day, it is

clear that no small part of the benefit of the labour undertaken can only be obtained from reading the papers in the Transactions. We believe that we are correct in stating that the volumes of Transactions will not contain a full report of all the proceedings of the Congress. In such a case they would be too huge, and it would be affectation to assert that all the papers prepared are worthy of a permanent place in our literature. We trust that the Committee will exercise a wise and firm discretion, while in all doubtful cases leaning to the side of generosity to the authors. But, above all, we trust that those papers that are selected for publication will be published in full. The volume must be of great value, and contain matter for frequent reference, and it is only right that in such a case an author should be allowed to express himself with sufficient fulness to secure clearness in the treatment of his subject. Having published a portly volume of abstracts already, there would be no excuse for admitting the less excellent papers into the volumes of Transactions in abstract. A similar wise discretion should be used in reference to the publication of the speeches in the debates; only the best, the very good ones, should be permanently recorded. The work of the officers of the Congress is thus by no means over, and what remains will require great judgment and skill, and in it they will need the support of the whole body of the profession. We trust and believe that they will be as successful in it as in all the earlier labours, and that the volumes of Transactions produced will be worthy in every way of the remarkable meeting we have just witnessed. We who have been present can never forget the vast assemblies of scientific men, the great work done, the friendships made or renewed; but the three thousand are only a small item in the sum total of scientific workers, and we shall do well to remember the adage, *Litera scripta manet*.

THREE of the addresses delivered at the late meeting of the International Medical Congress dealt with the subject of the value of experiments on living animals. Each was written by a master hand fully competent for the task, and presented the arguments in favour of such experiments from a different point of view. Professor FRASER demonstrated how necessary such experiments are to scientific investigation in pharmacology, and illustrated from his own experience how completely the present Act for the Prevention of Cruelty to Animals has stopped progress in this direction in our own country. Mr. SIMON, in his address, showed the good results such investigations have already rendered to preventive medicine in particular, and pointed out the abundant harvest yet to be reaped in the same fields of labour. Professor VIRCHOW made a powerful appeal for perfect freedom in scientific research, and conclusively showed that our present knowledge of life is founded on experiment, and that the only reliable and practicable means of increasing and perfecting it is also experiment.

Everyone conversant with the history and progress of medical science, with the methods by which that progress has been achieved, and with the magnitude of the issues at stake, must rejoice that at such a time this question of the right of properly qualified investigators to make experiments on living animals should have been raised. The three addresses to which we have alluded are each and all of them so good that we might well content ourselves with merely calling attention to them, did we not feel that the need is pressing. It is notorious that the present Act is being so worked as to almost entirely prevent experiments on living animals. And when we learn from Dr. FRASER that he is unable to inject under the skin of a rabbit a substance which he may freely give with its food, it is difficult to speak with respect of either the framers or administrators of the Act. Suppose the substance were strychnia: how absurd that by any Act it should be lawful to cause the frightfully painful death by strychnia poisoning, but yet illegal to administer the poison hypodermically because of the pain produced by an insignificant prick! It is of no use pointing to the useless pain inflicted by all classes of society, or to the animal torture that the richer classes indulge in for the sake of recreation, so-called "sport," or fancy. The edge of such arguments is turned at once by the selfishness so predominant in the human heart. But the matter is pressing. Opposed to the profession is an unscrupulous band of agitators, who, heedless of truth and reason, are prosecuting their cause with all the blind impetuosity of ignorance and misdirected sentimentality; and there has lately been too much experience of the power of mere agitation to allow us to think slightingly of such an opposition. We are seeing scientific investigation stopped, and that in the country where it has always been most closely associated with improved methods of treating disease. While the calls upon the profession are daily increasing, and the public is looking to it for more and more help, and in ever new ways and with greater certainty, it has been deprived, so far as this country is concerned, of its chief means of true scientific advancement. The question then is urgent, and the profession must not, cannot, submit to have its power for good thus curtailed. What is to be done? Follow old well-established rules. The public must be educated. An agitation must be carried on. Scientific men must come freely and boldly forth and make the laity as familiar as possible with their claims, and the reasons urged in support of them. The claims themselves must be definite. It must be clearly understood that the right we contend for is not that of free and unlimited "vivisection," free alike to the student and teacher, the tyro and skilled experimenter. Nor do we claim the right of "vivisection" for the mere purposes of demonstration. But we *do* claim that skilled experimenters —physiologists, pathologists, and pharmacologists — shall have perfect freedom to conduct experiments on living animals where such are necessary to the elucidation of the problems of health, disease, and therapeutics. We claim that true scientific investigation should be as free as thought—surely it ought to be as free as sport! This claim must be definitely asserted on every occasion, clearly and distinctly. And the great mass of evidence with which it can be supported should be given world-wide publicity. It should be made impossible for the opposition either to propagate their malicious perversions of the truth, or to malign the characters of those who have conferred inestimable services on mankind, or who are endeavouring to unravel the tangled skein of life and death. The only way of successfully contending against the agitation now on foot

is to diffuse a knowledge of the truth. The general methods of physiological experiments, the value of the results obtained, the certainty of still greater results in the future, must be demonstrated. There is no reasonable hope of being able to withstand the present noisy opposition by personal appeal to the Home Secretary; the public must be won to the side of the profession. The task is difficult and very uncongenial to those best qualified to undertake it; but unless the progress of biological science in our own country is to be permanently retarded or even stopped altogether, some must brace themselves to this work, and "agitate! agitate! agitate!" The profession is united on this matter; were its members only to acquaint themselves thoroughly with the facts of the case, and make it a part of their duty to spread that knowledge broadcast, the public would quickly be convinced. We are trusted with the lives and limbs of men; none ever suspect us of inflicting any unnecessary pain on man; and it is absurd to think that men thus trusted with the highest interests of humanity should be hampered and crippled in the display of their power over the brute creation.

We trust we need not say a word to shield us from a charge of cruelty by any honest person. Would that such knowledge as we desire could be obtained without pain! But it should not be lost sight of that pain is one of the fundamental facts of life, it enters into every relation and condition; yet it is possible to exaggerate its evil effects. The child learns even the laws of dead matter by the pain following their infringement. Physical pain is the most universal sensation of all animal life, and were we to seek for the best or worst example of the infliction of unnecessary pain, we should find it in the habits of the brute creation—the outcome of instincts which are primary facts in their existence. We do not infer from this that pain is trivial, or is not an evil, or that it is ever justifiable to inflict it needlessly; pain in itself is an evil; but all Nature shows us that the mere association with pain is no proof either of the folly or sin of an act. Our efforts have been and always should be to banish pain as far as possible from human and the lower animal life, and were that the true object of the anti-vivisectionists, which they sought to achieve by the surest methods, they would be the staunchest supporters of the profession in this matter. Even within the last few months PASTEUR has shown that by causing a minimum of pain to a few animals, results have been obtained that promise to spare the health and lives of countless thousands of their species. And this is the kind of beneficent labour that alone of all others is illegal in this country! Ignorance only could have led to such a mistake, and the only way of correcting it is by educating the people. This is the task now before the profession, and the sooner, more heartily, and more generally they address themselves to it the better, not for themselves alone, or even in chief, but the better for the whole civilised world.

IN an article on "Doctors and Patients," our versatile contemporary, the *Spectator*, lays it down as an axiom that "to be a really good physician a man must be a psychologist"; by which he means that the inner nature, or heart, or soul—call it what we will—of the patient must be taken into account in every diagnosis and in every scheme of treatment, as part of the case and of the subject as a whole. This is undoubtedly true. Whatever may be the causal relations between mind and body, the mental part of man's being is not less real than the material, and it plays an equally realistic part in the production of disease, the constitution of morbid states, and resistance to remedies. The practitioner who should leave the mind out of consideration in the study of disease in the concrete, or disregard it in the plan of treatment he adopts, would be closing his eyes to half the task he undertakes, and throwing away half the means and power by which it is to be accomplished.

It is worth while to seize on the opportunity to say as much as this just now, because the science has so outrun the art of medicine that we are in danger of disregarding the *unseen* in our daily duties to the sick. It should suffice for the ephemeral triumph of modern thought, or scepticism, that we deny the unseen in our studies and cheer the utterances of grossly materialistic philosophers before the rostrum. The healing art could never survive the sacrifice of the unseen, yet perceptible, side of humanity in the sick chamber. As the practical physician very well knows, it is on that side of human nature we often find traced in legible characters the occult causes of disease, and it is there we not unfrequently discover the most clear and trustworthy indications for treatment. It may be absolutely true that man as an animal is the physical outcome of protoplasm; but it is as an animal *and something more* we have to treat him. A writer whose philosophic genius and excellent literary attainments we all recognise has ascribed the so-called "spirituality" of man to his emotional nature, and asserted that man will always have emotions while he has viscera. This may be strictly true, and yet it remains that one, perhaps the only, way to operate on a man's viscera is through his emotions. At this point stands the pivot of the axiom, "To be a really good physician a man must be a psychologist."

If emotions spring from the viscera—and no doubt in great measure they do—a pathology of the emotions must form an integral part of medicine. To ignore the emotional phenomena of disease is to ignore a class of symptoms not less important than those which are comprised in the pathology of organic structure and gross function. As a matter of fact, the psychical indications of morbid states are often more directly indicative to the clinical observer, if only he have eyes to see and ears to hear, than the better formulated, because as yet more carefully explored, "physical signs" and "symptoms." JAMES HINTON was right when he wrote, "More than ever now the physician must have knowledge of the soul; must feel, with finer senses, other pulses; and measure heats and chills which no thermometer can gauge." Each year's progress in science gives new strength to this position, and defines with increasing accuracy the place of the physician in advance of the dry and soulless philosophy which is too generally accepted as "scientific medicine." Even from the sternly utilitarian standpoint, it is apparent that the practice of our art cannot be carried on without an experimental acquaintance with those forces which, however closely they may be connected with matter in the relations of cause and effect, nevertheless, seem to hover around the body as though they were linked

to it, rather than sprang from it, as if they were adjuncts instead of essential elements of its proper phenomena. However this may be, it is, as we have said, opportune to recognise that psychology—such psychology as consists in the minute study of the mental aspects of disease—should be regarded as an inalienable province of ordinary medicine.

We sometimes hear of men who claim to take or leave the study of psychology at pleasure. They might as well affect to treat histology, or physiological chemistry, as a separable part of medicine. Humanity is suffering from the arbitrary relegation of what are called "mental diseases" to the care of a specialty. It would be as reasonable to refer the pathology of the secretions to one class of practitioners while another took charge of the organs by which these secretions are elaborated! How could the organs be studied or treated without regard to their functions and work? And how, we may ask, can the body be studied or treated apart from the mind, in and through which it is often possible to gain the best, or only, view of its inner workings? We are not speaking in any metaphysical sense, but practically. It is time to put in an earnest plea for the recognition of psychology as an intimate part of physic. Every advance we make in the exploration of Nature renders it increasingly evident that body and mind are inalienable—as in health so in disease. The mental phenomena of life are the direct effects or the reflexes of the physical state. It is, therefore, obvious that the moment is approaching when the recognition of unity must be conceded. We are not now speaking of unity of ultimate constitution. Of the mysterious *something* which makes man more than an animal, science knows nothing. Those of its professors who worship "the Unknown," confess that the object of their faith stands outside the confines of human intelligence. At the same time they claim to recognise, and ask the most crudely—or may we borrow Dr. Hughlings Jackson's emphatic word and say *brutally*?—materialistic of physicians to recognise the effect which the outer centring of human hopes and aspirations must have on the psychology of man's nature. Even if human emotions be the outcome of viscera, they are generally affected by the manner, and the real or supposed object of their exercise, and they react on the viscera from which they spring with a force and an intensity due to the outer sphere in which they operate. It follows that this outer sphere—the *spiritual*—must be recognised by the physician in his dealings with the mental and physical constitution of man as a whole. In short, the whole range of psychology must be included in the province of practical physic. We are therefore compelled, on scientific grounds, to echo the the dictum of our contemporary: "To be a really good physician a man must be a psychologist."

DR. BRISTOWE'S address on Medicine at the British Medical Association is somewhat disappointing. Dr. BRISTOWE is an admirable author, and when it was known that he would discourse on Medicine considerable expectation was raised. The disappointment was the greater as it became clear that his theme was to be of a therapeutical character. Therapeutics is not the *forte* of Dr. BRISTOWE'S great work on the "Theory and Practice of Medicine," and his interest in therapeutical questions is rather philosophical than practical. The disappointment deepened still further as it became evident that he was not going to express any new faith in therapeutics, or throw any new light on the action of medicine in the cure of disease, but was simply going to slay the slain and demonstrate the absurdity of homœopathy. We say *simply*, but this is not quite correct. There was a moral at the end of the address, as we shall see immediately; and it looks very much as if Dr. BRISTOWE, or the leaders of the Association, meant this moral to be the principal feature of the annual meeting of the British Medical Association.

Supposing this address to be divided into tenths, nine parts are taken up with an able exposition of the absurdity of homœopathy and the credulity and self-confidence of HAHNEMANN. There may be two or three practitioners in London who are not already convinced on these points. We would commend to them the study of Dr. BRISTOWE'S address. He very properly goes to the fountain head for his materials of judgment—to the "'Organon,' the Bible of Homœopathy,"—and shows plainly that HAHNEMANN knew nothing of disease, as it presents itself either to the physician or the pathologist; and that his reasoning about the action of medicines was full of errors and conceits of the most palpable character. By the way, there was one fundamental error and conceit of HAHNEMANN'S very distinctly and constantly obtruded in the "Organon," which, though alluded to by Dr. BRISTOWE, is very insufficiently exposed—viz., that the causes of disease were of a spiritual, immaterial character. At page 3 of the "Organon" HAHNEMANN says—"As the greatest number of diseases are of dynamic [spiritual] origin and of dynamic [spiritual] nature, their cause is therefore not perceptible to the senses." Referring, for example, to small-pox, he says: "Is it possible to entertain the idea of a material morbific matter being introduced into the blood?" It was in this false view of the nature of disease that the most absurd part of his system originated—the attempt to develop the "*spiritual* power which lies hid in the *inner nature* of medicines." But we must avoid the error which we think Dr. BRISTOWE fell into, of a work of supererogation. Seeing that the term "homœopathist" has been pronounced to be "unwise and incorrect" by the most authoritative representatives of those who try to find something else than nonsense in the teachings of HAHNEMANN, and that "the use of infinitesimals in medicine is practically by a large number all but abandoned," it was surely unnecessary for Dr. BRISTOWE, who could have discoursed so profitably, to have spent nine-tenths of his address to the members of the British Medical Association in exploding the exploded.

This brings us to the moral of Dr. BRISTOWE'S address—that we should treat homœopathists "as if they were honest and well-informed and qualified men," and avoid the "natural tendency to look upon them as knaves or fools." The real moral at which Dr. BRISTOWE aims, though he stops short of avowing it, is that we should no longer hesitate to meet homœopathists in consultation.

We do not wish to call homœopaths either knaves or fools. Medicine in its most rational and effective forms is imperfect enough to make us modest and to lead us not to call each other names; yet we maintain that the history of homœopathy is the history of a delusion and a conceit,

and the admission of the delusion by medical men who have practically abandoned it entirely justifies the attitude which rational medicine has taken with regard to it. We cannot afford, even now, to appear to recognise an exploded delusion. We must be charitable and magnanimous, but this does not involve consultation with avowed homœopathists, even though they be neither knaves nor fools.

Annotations.

"Ne quid nimis."

THE LESSONS OF HOSPITAL MISTAKES.

THE evidence given at the adjourned inquest at the Islington Coroners' Court in the case of John Cooper, who came to his death by burns followed by pyæmia, was of a very important and instructive character. That of Mr. Alfred Scott, in particular, the junior house-surgeon of Guy's, was full of interest. Mr. Scott remembered the patient perfectly, and was disposed to believe that he had seen him more or less every day, but could not say how often with any certainty. On the first occasion of the deceased coming to the hospital, in answer to a question, he said he came from Bermondsey, and throughout Mr. Scott had the impression that the patient dwelt in Bermondsey. Had he realised that he lived in Islington, Mr. Scott says he would have recommended him to go to a nearer hospital. Mr. Scott did not remember seeing Cooper at the second visit on the 8th, the Friday on which his burns were dressed, and he was told not to return for three days. He estimated that they saw daily in the surgery fifty new cases of accident, and in all daily about two hundred cases. He had under him two dressers and one nurse. Serious cases were reported to him by the dressers and the nurse. He was dependent on them for directing attention to them, and from them he received a good deal of his information. Dr. Steele of Guy's in the main confirmed Mr. Scott's evidence, though he thought he had slightly overstated the number of new cases daily in the surgery. The frankness and the intelligence displayed by Mr. Scott impressed the jury and all present most favourably, and had a very decided effect on the form of the verdict, which was as follows:—"That the deceased died from the effects of blood-poisoning, following burns on the arm; that the said burns arose from accidental causes. The jurors have carefully weighed the evidence of Dr. Steele, Mr. Scott, and other witnesses, and taken into consideration the large number of patients attending Guy's Hospital as casual patients, are of opinion that the skilled supervision is insufficient, and should be increased; but they would further say that they believe the deceased received all the care and attention which the present arrangement of the hospital affords." We entirely concur in this verdict. It is impossible to have a junior house-surgeon more efficient, and seemingly more humane and considerate, than Mr. Scott. But it is equally impossible for even such a house-surgeon to do justice to 200 patients a day. In other words, under such an arrangement a large amount of unqualified practice obtains, which would be denounced unmercifully outside of a hospital. It cannot be doubted that many evils and hard cases of neglect arise under such a system—many more than are ever heard of, though the reported cases are now so frequent that something will have to be done. The officers of hospitals will have to be a little more careful. The committees and governors of hospitals must not impose impracticable quantities of work on one man's shoulders; they must take steps either to diminish the amount of casual out-patient work, or they must increase the number of competent and qualified persons, so that patients may not be deluded by being seen by those who are unregistered and inexperienced.

There is another party in these questions who is, not entirely free from blame—viz., the public. It is all very well to express indignation at defective diagnosis and accommodation in hospitals, but this is largely a question of public liberality. The committees of hospitals cannot multiply beds and qualified house-surgeons without funds, any more than one can make bricks without straw. And if the maimed and the diseased are not to be denied skilled advice and accommodation at hospitals, or are not to be passed from one hospital to another, the public must be far more liberal in its support of hospitals than it has been. Something can be done in the way of weeding out unfit cases. But there will remain a number of urgent or hard cases sufficient to fill all the unoccupied beds in London, *if money is forthcoming*. In regard to this very case, Mr. Scott said, with genuine regret, he would like to have taken it in, and that he was not able to give the cases all the care he could wish. It is well known that even this endowed hospital is seriously curtailed in its means by the prevalent agricultural depression. In criticising hospitals let the public take some blame to itself for much unrelieved misery, and many deaths that ought to have been prevented.

PRESIDENT GARFIELD.

THE condition of President Garfield during the last few days has been such as to excite the worst fears. On Sunday there was evidence of great irritability of the stomach, which was so extreme that it became necessary to suspend all attempts to give food by the mouth. Happily the nutritive enemata were retained, and the latest telegrams state that the sickness has subsided, and that small quantities of fluid nourishment have been retained. With the onset of the gastric disturbance the temperature rose to over 100° F., but for three days now it has been normal. The condition of the wound is satisfactory, and the discharge of pus free. So far as our limited information extends there does not appear to be any reason for thinking that this latest complication is directly due to the wound, or that it indicates any form of septic poisoning, deep inflammation or bagging of pus; and so far there is room for encouragement. But the increased debility and the persistent frequent pulse, which remains between 110 and 120, are elements in the case of very grave import. Should it prove that the gastric irritation has completely subsided, and that the distinguished patient is able to take and digest suitable food, there will yet be room for hope of his ultimate recovery. On the other hand, if the improvement recorded on Wednesday be not maintained, there will be but a small chance of combating successfully the extreme exhaustion.

LUNACY REFORM.

THE address with which the president of the section devoted to "Mental Diseases" at the Congress opened the proceedings was worthy of the section and of its author. Dr. Lockhart Robertson has bestowed much energy on the study of the question of lunacy law reform, and, although we cannot fail to recognise that his views of the situation and its requirements are strongly imbued with the official characteristic—as must be inevitable from the high position which he occupies and his close relations with the Lord Chancellor—he deserves great credit for the force of his perception. He does not fail to see the need of improvement. Our only complaint is that the measure of reform with which Dr. Lockhart Robertson would be content falls far short of the requirements of the case. No mere change of the law *permitting* justices to admit certain private patients to

public asylums, or even to establish quasi-public institutions for paying patients side by side with the existing "licensed houses," would suffice to remove the scandal of a traffic in the right of private imprisonment. We have always insisted, and must still insist, that the only satisfactory reform would be the total abolition of private asylums as such, every institution for the reception and retention of the insane being placed on a public footing and administered by officials remunerated by salary, answerable to the State, and, in fact, public officers. So long as the Bill brought before Parliament by the member for Swansea, Mr. Dillwyn, proposed to amend the law in this sense, we were glad to support it, but when it ceased to make this measure of change its object, when, in concession to the official spirit, it was eviscerated, and proposed and contemplated nothing beyond the possible creation of a few asylums to enter into competition, for patients, with private houses, we could no longer recognise it as a satisfactory measure of State policy. The subject of Lunacy Law Reform will not admit of any half-hearted treatment, nor will permissory measures suffice to meet its great needs. We hail Dr. Lockhart Robertson's speech and Mr. Dillwyn's Bill as indications of a movement which will in the end issue in reform, but the end is not yet.

THE LATE EARL OF GAINSBOROUGH.

THE story of the Earl of Gainsborough's melancholy death is, unhappily, not a rare one, and teaches its own lessons. His lordship, some years ago, had a long and severe attack of gout, and lately he had been noticed often to nurse one of his legs on a chair. Recently he had also shown some signs of distress on going upstairs, and his eyelids were generally puffy in the morning. The night before his decease he was up very late, after attending the House of Lords, and rose early in the morning, not having had more than four hours' sleep. He ate an unusually hearty breakfast, and prepared for his journey. As his servants did not succeed in finding a cab, his lordship ran for a long distance in search of one himself, and then returned to his house almost breathless and excited at the prospect of missing the train. On his way to the station, and when near University College Hospital, he suddenly sank to the floor of the cab and did not speak or move afterwards. He was taken to the hospital and received the kind and skilful attentions of the resident medical officer, Dr. Bond, but he was unable to swallow and could not be revived. The lips were blue, the face cold and clammy and of dusky paleness; the heart and breath sounds were inaudible, and there was no radial pulse, though the body was warm. The cause of death seems to have been syncope, following excessive muscular exertion after a heavy meal. The heart was probably "gouty," having an hypertrophied and dilated left ventricle, and perhaps some degeneration of its structure.

EFFORT—FAILURE—DEATH.

THE danger and, therefore, the folly of excessive effort and undue haste are again painfully illustrated in the sudden death of the Earl of Gainsborough referred to above. A man who is neither very strong nor very weak, but who has reached that period of life when the reserve stock of energy is nearly exhausted and the life of the organism has to be maintained, as it were, from hand to mouth by the vital forces daily, almost hourly, generated, makes a sudden effort, succeeds, and yet fails, and then dies. The story of the process which ends thus fatally is exceedingly simple. The supply of life-strength was equal to the demand so long as there was an absence of sudden call on any part of the organism to do more than its routine work. If no extraordinary demand had been made, the machinery of life might have continued its revolutions indefinitely, but a special effort being made, the result was a total consumption—exhaustion, in fact—of the power by which the life of the organism was sustained. The particular task undertaken was done; the heart had doubtless begun to beat less fast than it did during the height of the "hurry;" the stress of effort was over, but there came a dead point, the collapse after the excitement, and no reserve of life-strength existing, the rhythmical processes of vitality could not be resumed. Everybody can understand the *rationale* of such a death, and it would be well if everybody—more particularly those above middle-age—would lay the lesson of prudence it teaches to heart. A man can do many things which are not expedient. He may even do such things many times with impunity, but peril always lurks behind the effort, and it would be strange indeed if it were not frequently consummated. The aged — under which term we include all who are no longer generating more force than they expend—should avoid the risk of making sudden or unusual demands on their powers, whether for muscular or mental exercise, digestion, assimilation, elimination, or any of the functions or processes of life. It is impossible to tell where or how the apparatus of animal functions may break down, or what will suffice to exhaust the energy by which it is worked. Not only is it unwise to run, to walk too fast, to attempt feats of exceptional strength, to make sudden changes in the position of the body or assume physically embarrassing postures, it is not less inexpedient to perform exhausting tasks of any sort. We are far from advising any man to assume a valetudinarian habit, or to put on a timid bearing towards the necessary business of life. We have unbounded faith in the life-maintaining power of orderly work; but the orderly work of advanced years should be as nearly as possible effortless. It is the effort that kill. Weak hearts, defective respiratory organs, even debilitated nerve-centres will often suffice for quiet modes of living; but when haste and effort are superadded to the ordinary burden, vitality succumbs. The sequence is—exhausting effort, failure from exhaustion, death from the simple lack of power to live.

CONVALESCENT HOMES.

WE recently drew attention to the need of convalescent homes for the insane, a want first pointed out by Sir William Ellis nearly half a century ago. That economical requirement has not yet been satisfied. Looking to the length of effort it takes to enforce any claim of this nature on public opinion, it is high time to begin the agitation for a multiplication of homes for convalescents generally. Whether the community is called upon to maintain the sick poor by rates levied by law, or by voluntary contributions to medical charities, it should be evident that it is "cheap" in the end to cure thoroughly. Incomplete recoveries produce chronic cases, and swell the class of the incurable and the permanent sick. Sending a man or woman prematurely back to the working world, whether from an asylum for the insane or an ordinary hospital, is the most short-sighted policy. It risks the peril of creating a life-long disability for breadwinning, in order to save the few shillings necessary to perfect the cure. Every institution for the treatment of disease should possess, as an essential part of its establishment, a home where convalescents could be removed, and where they could be placed under conditions favourable to a perfect restoration to robust health. A still weakly brain, or lung, or heart, or liver, or intestine, should no more be exposed to the wear and tear of ordinary life than a newly united fracture should be deprived of the

support furnished by splint and bandage and crutch, before it is strong enough to sustain the weight of the body and fulfil its accustomed task. Unhappily, while this is well recognised in the practice of surgery, it is not perceived in regard to medicine: so true is it that what is out of sight is out of mind.

HEALTH OF THE METROPOLITAN POLICE.

THE report of the chief surgeon on the Health of the Metropolitan Police Force during the year 1880, appended to the general report by Sir E. Y. W. Henderson, gives some interesting information on the subject. The average strength of the force, exclusive of the men employed in the outlying dockyard divisions, was 10,301, among whom 6409 cases of sickness and injury occurred, and 66 deaths. These numbers give the ratio of 622 cases and 6·41 deaths per 1000. The average constantly sick was 326·4 men, and the number discharged as unfit was 256, being respectively 31·69 and 24·85 per 1000 of the strength. If we compare these ratios with similar information respecting the Household Cavalry and the Foot Guards, the following are the results:—

	Ratio per 1000 of strength.			
	Cases.	Deaths.	Invalided.	Constantly sick.
Metropolitan Police, 1880	622	6·41	24·85	31·69
Household Cavalry, 1869-78	621	6·72	15·51	26·94
Foot Guards, 1869-78	779	7·95	23·31	42·95

Thus, it will be seen that the sickness and mortality of the Police Force correspond very closely with the Household Cavalry, while the proportion invalided is higher, being nearly identical with that in the Foot Guards. The proportion constantly non-effective from sickness is about one-fifth higher than in the Cavalry, and one-fourth lower than in the Foot Guards. The excess of admissions and constantly sick in the Foot Guards is no doubt in a large measure, if not entirely, due to venereal diseases, for the total number of cases reported in the Police Force during the year was 18 or 1·74 per 1000, while the average cases occurring annually among the troops in London amount to about 190 per 1000. The principal causes of death among the police are consumption and "disease of the lungs," inflammatory affections of the lungs, disease of the heart, apoplexy and disease of the brain, and disease of the kidneys. The economical changes in the returns enforced upon the Army Medical Department by the Treasury have deprived us of the means of comparing the relative mortality by these diseases in the Household troops and police respectively; but the following is the proportion in the latter force compared with that of the troops generally throughout the United Kingdom in 1879, the returns for the troops in 1880 being not yet available:—

	Deaths per 1000 of mean strength in	
	Metropolitan Police.	Troops serving at home.
Consumption, &c.	2·23	2·78
Pneumonia, pleurisy, and bronchitis	1·07	1·02
Disease of the heart	1·07	·64
Apoplexy and brain disease	·48	·39
Enteric fever	·29	·21

So that there is a slight excess of mortality by consumption and pulmonary diseases among the troops, and by heart disease in the police. It is noteworthy that deaths from violence are very rare in the police force. During 1880 there were only three—one by lightning, one by accident, and one by suicide, drowning. The number of cases of injury which came under treatment amounted to 688, of which 517 occurred on duty and 171 not on duty, and 46 men were placed on the sick list from sore feet. The influence of exposure in causing sickness among the men is shown by the number of cases occurring in each quarter, as follows: January–March, 2078; April–June, 1354; July–September, 1381; October–December, 1596. The excess of cases in the first quarter was chiefly from coryza, bronchitis, and rheumatism. A special note is made of the fact that though small-pox was prevailing as an epidemic in London, not a single case occurred in the Police Force—a result which, we presume, may be fairly attributed to the care taken by Mr. Holmes to see that the men have been efficiently vaccinated. There is a very marked difference in the amount of sickness in the different divisions of the force, the percentage ranging between 81 in the E or Holborn division and 31 in the Woolwich; Finsbury and Highgate rank next to Holborn at the one end of the scale, and Whitehall and Lambeth next to Woolwich at the other. It would be interesting to know to what this marked difference in the prevalence of sickness is attributable, and we would recommend the subject to the notice of Mr. Holmes as one worthy of investigation, and which might not improbably enable him still further to improve the health of the men by leading to the discovery of some preventable causes of disease.

INTERNATIONAL MEDICAL AND SANITARY EXHIBITION.

THE Exhibition organised by the Committee of the Parkes Museum was open for the last time on Saturday, August 13th, when the number of visitors, exclusive of season ticket-holders, was 1221, making a total of 24,333 visitors for the four weeks during which the Exhibition has been open, allowing only for one visit by each season ticket-holder. The representatives of the exhibitors, who have been in daily attendance during the Exhibition, marked their appreciation of the arrangements made for their convenience by presenting, on Saturday, a small purse of gold to the superintendent, Mr. Smithson. The closing of the Exhibition was taken advantage of by the St. John Ambulance Association to give a demonstration of ambulance practice, and during the afternoon a large number of the visitors assembled in the conservatory to witness the practice, which was conducted by Major Duncan, Mr. Cantlie of Charing-cross Hospital, Mr. Furley, Dr. Crookshank, and Surgeon-Major Baker. Prizes were competed for by squads of the Grenadier Guards, the Finsbury Rifles, and the Metropolitan Police. Mr. Erichsen (the chairman), Dr. Poore, Dr. Steele, Mr. George Godwin, Mr. Rogers Field, and other members of the Exhibition Committee, were present during the day. It is expected that the prizes which have been awarded will be distributed at the annual meeting of the Parkes Museum in the autumn.

CARBOLIC ACID AS AN ANTIPYRETIC.

AT a recent meeting of the Société de Biologie, M. Raymond gave an account of the markedly antipyretic qualities possessed by carbolic acid, which he has administered in cases of typhoid fever. The acid is given simultaneously by mouth and rectum, to the amount of one gramme per diem, fifty centigrammes being divided into three pills, and a like quantity used in enemata. He declares that its administration on this plan is very soon followed by a great reduction in temperature—viz., to the extent of 3° or 4° C., and within half an hour most profuse diaphoresis is established. To ascertain whether this hypothermic effect was produced by the direct action of the carbolic acid, or indirectly through the diaphoresis, M. Raymond suppressed the latter by the injection of duboisin, and found the lowering of temperature to be unaffected. He found also that the antipyretic action was increased the longer the administration was continued. By employing larger doses—viz., two grammes,—toxic effects were produced, the temperature fell to 34°, convulsive tremors occurred, and

carboluria appeared. At the suggestion of M. Vulpian, carbolate of soda was given in doses of one gramme and a half, instead of the free acid, and the patient kept under the influence of the drug. The toxic effects did not appear, but the antipyretic action was still marked. The remedy does not, according to M. Raymond, limit the duration of the stages of typhoid fever; it controls the pyrexia of idiopathic erysipelas in a similar way, but has no influence on that of tuberculosis. It was pointed out that the antiseptic could not, of course, pass through the alimentary canal unchanged, so as to reach the ulcerated small intestine, and it would seem simply that it acted through the spinal cord and the vascular system. M. Hallopeau thought the acid might have a topical effect on the typhoid ulcers. M. Dumontpallier pointed out that it was not so good a regulator of the fever as refrigeration. M. Hanot made some curious observations, which he detailed more at length at the next sitting of the Society. He said that in two cases of adults suffering from typhoid fever, whom he had treated by carbolate of soda given internally, defervescence was determined on the fourteenth day in one case, and on the sixteenth in the other, the temperature falling 3° to 4° C. on the second or third day of treatment. In each case a peculiar rash appeared at the same time as the fall in temperature, the rash becoming pustular and varioliform in a short time. The pustules, on microscopical examination, were found to be formed almost wholly of bacteria mingled with a small amount of pus. The urine also contained bacteria. M. Paul Bert, in commenting upon this, went so far as to say that carbolic acid renders the organism unfit for the development of the bacteria, and causes the particular material in which they thrive to be eliminated by the skin and kidneys, and the bacteria following its elimination are found in these parts. Upon what slender facts are marvellous and weighty theories sometimes raised!

A SO-CALLED HERMAPHRODITE.

THERE is now in London a young Frenchman who presents peculiarities alike interesting physiologically and anatomically, and distressing socially. The child of healthy Parisian parents, there was nothing peculiar noticed about him as an infant; he was believed to be a female, and named, registered, and dressed accordingly. At about the age of eight years some suspicion arose that the genital organs were peculiar for a girl, but no special notice was taken. As a child he played more freely with his brothers than his sisters, and liked bicycling and riding horseback and boyish sports. Later he went to a girl's boarding-school, where he stayed till sixteen years of age. He is now twenty, and dresses as a woman, and his appearance in that attire is not in any way striking. The face is smooth and plump, with no sign of beard or whiskers, but a few very fine and short hairs are growing from the extremities of the upper lip as in a boy of fourteen. The growth of hair from the scalp is luxuriant and reaches below the waist. He asserts that no means of stimulating this growth has been adopted, and speaks of the trouble of constantly having to cut it. The voice is neither markedly masculine nor feminine; the larynx is small, the thyroid cartilage is not prominent, and has all the outward characters of that of a woman. The mammæ are well, not largely, developed, and glandular structure is distinctly to be felt; the nipple is fairly well formed, and pinkish in colour. There is a very scanty growth of dark hair in each axilla. The pubic hair is abundant, but does not extend up towards the umbilicus in the middle line. There is a distinct penis about two inches long, with a well-formed glans, and the meatus urinarius is represented by a dimple. The prepuce forms a kind of cowl over the glans, and is wanting below. The scrotum is completely divided along the middle line, and in each half is a well-developed testicle, with a normal epididymis and spermatic cord. On separating the two halves of the scrotum the opening of the urethra is exposed at the root of the penis, funnel-shaped, and easily admitting the little finger as far as the membranous urethra; a catheter passes readily along it into the bladder. On the inner side of each scrotal half, and close to the orifice of the urethra, is a muco-cutaneous fold very like a nympha. The perineum is long, like that of a male. By rectal examination the outline of the prostate is readily defined. The thighs and legs are distinctly of the masculine type, as is the gait; the arms are also those of an unathletic man, and the hands are large. He has good health, but requires a good deal of exercise to keep well. He asserts that he has no exclusive preference for either sex, and that he has been in love with both men and women. There is the usual evidence of functional activity of the testicle. The associates of this man speak of his general demeanour as masculine, though occasionally markedly feminine, and they often say of him that "she is a good boy." Of course, there is no question as to the sex of this individual; he is a man with hypospadias. The special features of his case are the development of the breasts, the growth of hair from the head, the hairless face, and small larynx. It is not strange that in infancy he should have been taken for a girl, for with the smaller size of all the external genitals, the resemblance to the female sex must have been very close. It is an interesting question how far the resemblance in character to a woman—such as it is—is due simply to his education and constant association with women, or how far it is dependent upon some original peculiarity similar to that seen in the development of the mammæ and hair.

FALSE USE OF THE TITLE OF LICENTIATE OF THE COLLEGE OF PHYSICIANS BY AN APOTHECARY.

IN another column our readers will see that a practitioner, registered as a licentiate of the Apothecaries' Society of Dublin, has been fined £5 for using systematically, and after warning from the registrar, the title of L.R.C.P. The registrar produced a bundle of certificates with the false title attached to the writer's name. It is difficult to speak in measured language of such conduct by a registered medical man. We hope that the time is at hand when the title of Apothecary will be abolished; meantime it is a registrable one, and gives the same powers of practice and recovery of debts as that of Licentiate of the College of Physicians. The defendant did not mend his case by pleading that he did not attach the letter L to his assumed title. The College of Physicians acted with great propriety in exposing such discreditable conduct.

THE PUBLIC SERVICE EXAMINATIONS.

THE examination of candidates for admission to the Medical Department of the three branches of the public service began at the London University on Monday. We understand that sixty-two candidates presented themselves for the Army, thirty-one for the Indian Service, and fourteen for the Navy. No intimation has been given of the number of vacancies to be filled in any of the services, but we have reason to believe that in the Army and Indian service they do not amount to half the number of aspirants, while the Navy will be only too happy to take all its candidates who are so fortunate as to pass. Notwithstanding the inducements held out by the Lords of the Admiralty, candidates for the Navy are not forthcoming in sufficient numbers to remove anxiety as to the probability of an adequate supply of well qualified gentlemen being induced to join the department.

HEAT FATALITY IN CINCINNATI.

THE official mortality return for the city of Cincinnati, relating to the week ending 16th July, contains some interesting particulars of the extraordinary fatality from heat of which telegraphic intelligence reached this country at the time. It appears that 583 deaths were reported in the city during the week among a population of less than 300,000 inhabitants; these were equal to an annual rate of 108·6 per 1000. Of these 583 deaths 264 were directly referred to sunstroke, and 150 indirectly to "excessive heat." These were exclusive of 100 deaths resulting from infantile and simple cholera and other diarrhœal diseases. With regard o the 314 fatal cases of sunstroke and excessive heat it is interesting to note that they included 250 of males and 164 of females; 118 were of infants and children under five years of age, and 161 of young persons aged between ten and twenty years. It is also noteworthy that of 264 deaths attributed to sunstroke, no less than 138, or more than half, were of young persons aged ten years and under twenty. The return before us shows that only one of the 414 victims of the excessive heat was coloured; it is also noted that 146 of the 264 reported deaths from sunstroke were of residents of the city born in Germany. The 100 deaths from diarrhœal diseases included 67 of children under five years of age, showing the infantile proportion of these diarrhœal diseases to be considerably smaller than that which prevails at this season in the large English towns. The intensity of the heat in Cincinnati may be imagined from the following figures:—The mean temperature of the three days 10th, 11th, and 12th July was 91·4°; the minimum reading in the shade on those days was 80·3°, and the maximum 103·5°. This tropical heat far exceeds any recorded in London last month, unusual as that was.

THE INTERNATIONAL MEDICAL CONGRESS.

THE labours of the Hon. Secretary-General, his staff, and the Executive Committee have by no means ended with the dispersal of the Congress. The publication of the Transactions is being pressed forward as rapidly as possible. It has been decided to issue them in three volumes, the first of which, containing the general addresses, list of officers and members, &c., it is hoped will soon be issued. The other two volumes, containing the records of the work in the sections, will involve considerable labour in preparation, and must not be expected for some months. All the 500 medals struck in commemoration of the Congress have been sold; and to meet further applications more are being prepared. The medal, in bronze, can be had by applying to Mr. W. Mac Cormac, 13, Harley-street. The price to members of the Congress is half a guinea; to others, one guinea.

LEAVE OF ABSENCE TO MEDICAL OFFICERS.

WE find it stated in the *Army and Navy Gazette* that "a new rule has just been made that no leave exceeding one month is to be given to any medical officer at a time," and it is pointed out that such a rule would virtually prevent many officers getting leave, as it would not be worth while to move their families, often to considerable distances, for so short a time. As the result of inquiries on the subject, we believe that our contemporary is under a misapprehension. Owing to the large number of medical officers still retained at the Cape, it has been found impossible to grant the usual leave to medical officers at home, at least in the same numbers as in former years. The Director-General, we are informed, has considered that there would be less hardship in granting one month to all who apply for it—at least so far as this can be done without detriment to the service,—than to grant two months' leave to one-half the number, and refuse all leave to the other half. It is to be regretted that such a course is rendered necessary by the exigencies of the service, but we are disposed to think that under existing circumstances it is the most equitable. It is quite understood that the restriction of leave is merely temporary, and that it will be removed as soon as possible; and should this occur soon, we are informed that such officers as desire it will then be granted another month's leave to complete the usual period. This is one of those unpleasant restrictions which sometimes unavoidably occur, to the discomfort and annoyance of our professional brethren in the army.

BARON HUDDLESTONE.

WE are glad to be able to state that Baron Huddlestone's progress towards recovery after the severe operation which he has undergone is quite satisfactory. His convalescence, however, from the fact of his having for long been the subject of chronic pyelitis and related troubles, is expected to be somewhat slow. The operation, which was performed by Sir Henry Thompson, was completed at one sitting.

YELLOW FEVER AT THE WEST INDIES.

WE regret to find that the yellow fever, which we noted last week to be somewhat prevalent in Barbadoes amongst the native population, has spread to the garrison. The mail this week brings intelligence that the wife and child of the Colonel of Artillery and an officer of the 4th King's Own (Lancashire Regt.), Lieut. Le Blanc, have succumbed to the disease. A few cases were in the Military Hospital with remittent and other fevers, but we are glad to learn that the epidemic is at present a very small one; and we sincerely trust the timely precautions adopted, with increased vigilance in sanitary matters, will prevent its spreading to any extent. Surgeon-Majors Edmund Hoile, M.D., Thomas O'Reilly, and J. White have embarked for the West Indies, to augment the Medical Staff in the garrison of Barbadoes.

HABITUAL DRUNKARDS.

THE Report of the Inspector of Retreats to the Secretary of State for the Home Department only confirms our dissatisfaction with the Habitual Drunkards Act, and demonstrates its inefficiency. The inspector must have an easy time of it; only two retreats have been established, and one is about to be discontinued. He cannot point to a permanent cure, but he thinks some good has been done in several cases. This is a poor account of work that has the sanction of the Legislature, and should make all concerned, especially Mr. Cross, feel determined to do something better, if only for the credit of legislation.

FILARIÆ AND THE FEBRILE STATE.

THE Quekett Club's Journal just issued contains a paper by Dr. Patrick Manson, which should excite interest. On several occasions we have called attention to the author's discovery of periodical migrations on the part of microscopic filariæ in the blood. Now, we have placed before us an elaborately constructed chart, which records observations on the pulse, temperature, and numbers of hæmatozoa in two filarious patients. These laborious observations were made every three hours night and day, throughout an entire month. In the case of the second patient, Tiong-Seng, the effect of the febrile state is well shown. The disturbance in the filarial rhythm did not commence until some time after the thermometer had risen, yet when the disturbance had fairly shown itself, it was maintained beyond the period

at which the temperature again became normal. From this, Dr. Manson infers that mere elevation of temperature is not by itself the cause of filarial periodicity. The paper is worthy of attentive study, and the "Quekettera" deserve the thanks of the profession for publishing such an expensive plate.

THE death is announced at Colaba, Bombay, on the 12th July, of Surgeon Henry A. Wall, of the Army Medical Department. Mr. Wall entered the army in March, 1880, and proceeded to India for a tour of service last trooping season. Mr. Wall was unmarried.

THE *Graphic* of last week contained an admirable representation of the interior of St. James's Hall whilst the scene of a meeting of the International Medical Congress. The engraving included good portraits of Sir William Jenner, Sir James Paget, and other prominent members of the profession.

DR. ANGUS MUNRO, formerly resident surgeon at the Melbourne Hospital, with his sister and a young girl named Rundle, are reported to have been drowned near Wangaratta, while endeavouring to cross a flooded creek in a buggy.

PROFESSOR ESMARCH and Professor LANGENBECK have had the honour of being presented to the Queen by the Crown Princess of Germany.

IMPORTANT DECISION.

AT Wallingford Petty Sessions, on Friday, the 12th instant, Mr. Arthur Augustus Sadgrove, of Didcot, a registered medical practitioner, was summoned by the Royal College of Physicians for that he did on the 19th day of May, 1881, at New Town, East Hagbourne, otherwise Didcot, unlawfully, wilfully, and falsely take or use a name, title, addition or description implying that he was registered under the Medical Act, 1858, as a Licentiate of the Royal College of Physicians of London, contrary to Sec. 40 of the Act. Mr. Witherington (of the firm of Blandy and Witherington, Reading, instructed by Messrs. Field, Roscoe, and Company, of London, solicitors to the College) appeared for the prosecution. The defendant defended himself. It appeared that in the autumn of last year and up to and including the 19th May last, the defendant had on several occasions affixed to certificates of births and deaths after his name the registrable qualification of L.R.C.P. without having been so registered, and, indeed, without having qualified himself for being so registered. From the evidence of Mr. James Warlters, registrar of births and deaths, who produced a bundle of certificates signed by the defendant, it appeared that, notwithstanding he had in October last cautioned the defendant not to use the registrable qualification of L.R.C.P. without being first so qualified, he continued to do so up to the 19th May last. Other evidence having been given, including that of Dr. Pitman, registrar of the College of Physicians, the defendant (who did not call any witnesses) was asked by the Bench what answer he had to make to the charge. He practically admitted the offence, and that he was still without the necessary qualification, but contended that as the letter L was not added to the letters L.R.C.P. they could not be said to apply to the Royal College of Physicians, London. He further stated that, having received in June last a letter from the authorities at Somerset House, desiring him to discontinue the use of the qualification complained of, he had not since used it. Mr. Witherington, having made a few observations, submitted that while the prosecutors did not wish to be harsh with the defendant, it was a case which demanded a substantial fine. The Bench, after a short consultation, convicted the defendant in a penalty of £5, together with £5 costs.

NOTE ON

THE TREATMENT OF GALL-STONE.

BY R. SHINGLETON SMITH, M.D., B.SC.,
PHYSICIAN TO THE BRISTOL ROYAL INFIRMARY.

IN THE LANCET of Sept. 18th, 1880, and in the *Medical Record* of March 15th, 1881, are reported cases of gall-stone treated by the administration of large doses of olive oil, with very remarkable and satisfactory results. It is stated that in both cases hundreds of gall-stones in various stages of disintegration were discharged from the bowel, and that the patients were permanently cured after one or two doses of olive oil, although repeated attacks of biliary colic had been present for twelve or eighteen months before. The writer in the *Medical Record* considers it certain that in olive oil we have a substance which, when given in a dose of six or eight ounces within an hour, has the power of bringing away the contents of the gall-bladder, and apparently without pain, and the calculi are almost disintegrated in the process.

A patient, a medical man between sixty and seventy years of age, has been subject to attacks of biliary colic at intervals for the last six or seven years. The pain comes on suddenly, and is relieved by nothing so well as injections of morphia hypodermically. Of late these attacks have been more frequent, more prolonged, and more exhausting, especially as they are generally accompanied by considerable vomiting, and great disturbance of the heart's action, with prostration. On learning the effects of olive oil in the cases reported he determined to put the matter to the test in his own case; he reasoned that it might do good, but could do no harm. Accordingly he procured a quantity of the finest salad oil, and took about six ounces within the space of one hour, sipping it slowly from time to time in small quantities and stopping as soon as any feeling of nausea was present. The result on the following morning he describes as follows:—"There was no action from the olive oil or the confection of senna taken very early this morning, but an enema brought down fæces of almost stony hardness, and hundreds of green masses of all shapes and sizes from canary-seed to a good-sized horsebean; some were imbedded in masses of hardened fæces, but floated as soon as separated; others were separate and were found floating on the surface of the water. The colour was pale-green; some of them were translucent. All were soft and flattened on pressure. The six ounces of oil appear to have been digested, saponified, or emulsionised, for there was no appearance of oil floating in the water of the enema." Many of these masses were preserved for examination, but hundreds were thrown away. Three days afterwards they were submitted to me for examination. They were then soft and greasy to the touch, but still coated with a greenish coloured film, which disappeared on touching any spot with the finger. They had not become dry by exposure to air, and warmth increased their tendency to liquefy, so much so that on being carried in a pill-box in the waistcoat-pocket they melted away, and left simply a greasy stain in the box and in the pocket. In consistence and texture they resembled very soft soap, and on being cut with a knife the section had a mottled appearance and the knife was greasy. No nucleus was found in any of the masses, and they were all of similar texture. The shape varied considerably; they were for the most part rounded and oval, but so easily moulded that this varied with the treatment. They were found to dissolve readily in boiling alcohol, leaving only a small residue; they also broke up in boiling water, forming an opalescent solution, at once cleared by ether. The solution in alcohol gave little or no precipitation on cooling; no crystals of cholesterine were precipitated on cooling the hot solution in alcohol. The masses were not acted on by strong sulphuric acid or by iodine. The sediment in the cooled alcoholic solution consisted of a whitish powder insoluble in water, cold or hot, in nitric acid or liquor potassæ. Drops of the ethereal solution evaporated on a slide left oil globules, not quite liquid oil, but opalescent and thickened to a semi-solid consistence; under the microscope these oil drops were seen to contain minute acicular crystals, like margarine.

My examination led me to the conclusions that these masses were not composed of cholesterine, and that the

principal element in their composition was oil, possibly in a state of semi-saponification. In order to get an unbiased opinion as to their chemical nature, I submitted a few of the masses to Professor Ramsay, of University College, Bristol, for chemical examination. His report is as follows:

"They consist for the most part of olive oil, and it is impossible to separate from them any substance resembling cholesterine, for the separation of the two is a very difficult problem, the same solvents dissolving both. But under the microscope it is possible to see with a very high power that the consistency of the masses is due to the presence of a great number of very minute crystals, which appear to polarise light to some extent, and which somewhat resemble crystals of cholesterine. The fatty masses on burning give a trace of residue, and that trace shows the presence of a very minute quantity of phosphoric acid by the most delicate test that can be applied—viz., ammonium molybdate. All that I can venture to state, therefore, is that the masses are not a soap, but chiefly olive oil full of small crystals, which may or may not be cholesterine. I should require a very much larger quantity than you have given me to decide the point chemically."

The results of Professor Ramsay's examination quite coincide with mine in these respects: (1) That the composition of these bodies is totally different from that of an ordinary gall-stone, and (2) that olive oil is the principal substance in their composition. It may, therefore, safely be inferred that they are *intestinal concretions resulting from the administration of the oil*, and that they have not been discharged from the gall-bladder by any mechanical or chemical action of the large dose of salad oil.

At the time of my writing the patient is laid up with another and more severe attack of biliary colic than he has ever had before. The bile-duct is completely obstructed, and the skin very deeply jaundiced. He followed up the first dose of oil with a second, but, in spite of this, continued to have pain in the region of the liver, which at last culminated in the present severe attack.[1]

It must be inferred from the experience of this case that we are still unprovided with a remedy with the virtues which have been of late attributed to olive oil.

A more complete chemical examination was not possible, as the masses had undergone liquefaction and dispersion when a further quantity was inquired for.

Clifton.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

KING'S COLLEGE HOSPITAL.

STANGULATED IRREDUCIBLE HERNIA; REMOVAL OF OMENTUM AND SAC; OPERATION FOR RADICAL CURE; RECOVERY.

(Under the care of Mr. JOHN WOOD.)

FOR the notes of the following interesting case we are indebted to Mr. T. Hugh Smith, surgical registrar.

Ellen O'N——, aged fifty-six, was admitted on May 25th, 1881. The patient said that she had had a tumour in the right groin for three years which had varied in size and sometimes disappeared. For three or four days previous to admission her bowels had not been opened, the tumour had increased in size, and on the day before admission she vomited and suffered much from colicky pains.

On admission the patient's countenance was anxious. A hernial tumour, oval in shape, and about the size of a hen's egg, lay with its long diameter parallel to Poupart's ligament. The neck of the swelling was external to the spine of the pubes, and internal to the femoral artery. The skin over the mass was slightly red but not tender.

May 26th.—The patient vomited three times during the night. The matter had no fæcal odour. Two enemata were given on the following morning, the second being followed by evacuation of scybalæ. An ice-bag was applied to tumour, and five grains of compound soap pill were given every four hours. In the afternoon the tumour remained the same size, and resisted all moderate attempts at reduction. There was nausea, accompanied by pain in abdomen and back. At 5 30 P.M. chloroform was administered, and Mr. Wood tried taxis for a few minutes, but could not return any of the hernia. An incision was therefore made over the tumour, down to the sac of the hernia, and the sac opened. A portion of congested omentum was immediately disclosed, and beneath the omentum lay a coil of intestine of a deep purple colour. There was very little, if any, fluid in the sac. Some adhesions existed between the omentum and sac of the hernia. Gimbernat's ligament was notched, and an attempt made to reduce the bowel, but without success. A second incision was then made in the same part of the ligament, but the tumour would not go back into the abdominal cavity. Mr. Wood found that the falciform margin of the fascia lata to which the gut was adherent formed the point of resistance, though it was not necessary to divide it. The bowel was drawn down, and the line of demarcation between the congested and normal intestine where constriction had occurred was well marked, but there was no ulceration, neither had the serous coat lost its glistening appearance. The exposed omentum was cut away, the stump of the mass being first ligatured in sections with fine catgut. The sac was next removed; and lastly, by means of his hernia needle, Mr. Wood passed a strong piece of catgut through the pubic portion of fascia lata, Gimbernat's ligament, Poupart's ligament, and then transfixed the neck of the hernial sac, and drew these parts firmly together with the catgut, which was then tied tightly, care being taken not to constrict the femoral vein. A drainage-tube having been placed in the wound, the skin was brought together with catgut sutures. The Listerian method was pursued throughout the operation. The patient made a rapid recovery; and on the day of discharge (June 24th) no impulse could be felt at the wound.

On June 28th the patient walked to the hospital, wearing an ordinary truss. No protrusion could be felt at cicatrix, neither was there any impulse when she coughed.

THE SAMARITAN HOSPITAL.

REMARKS ON ANTISEPTIC OVARIOTOMY BY MR. K. THORNTON.

ON Wednesday, Aug. 3rd, Mr. Knowsley Thornton made the following remarks to a number of the members of the International Medical Congress:—

This being, he said, the last of our regular operation days before the hospital is closed for its autumn cleaning, I think it is a good opportunity to make a statement as to the work done in my wards since the 1st of January in this year. I have performed ovariotomy twenty-eight times, and I have only lost one patient, a child of fifteen, from whom I removed a solid carcinoma, of 7 lb. weight, involving both ovaries, the cæcum and sigmoid flexure, so that I had to carve the intestines out of the solid growth. She died of exhaustion in forty-eight hours. Every one of these operations was performed with the 2½ per cent. spray, and solutions of absolute phenol (pure carbolic acid), and in no case was drainage employed. All the wounds healed by first intention, and the dressings were changed for the first time as a rule from the ninth to the twelfth day, when all the sutures were removed. Nineteen of the patients recovered without fever (i.e., the temperature never rose even during reaction beyond 101° F.); five had temperatures from 101·6° to 103·4° during a few hours, but required no special treatment; four had temperatures from 102·8° to 104·6°, and required the use of the ice-water cap during periods of from thirty-nine hours to sixty-eight hours. These nine cases were all of more than usual gravity, with large tumours, extensive adhesions, long exposure, and much sponging. Only two of the patients remained in the hospital twenty-eight days after operation; one a patient from whom I removed an extensively adherent tumour weighing 80 lb.; and the other one of the cases requiring the ice-water cap; a case of ruptured colloid, which I kept in bed longer than usual. The average stay in hospital after operation of the other patients was twenty days and a half, the shortest seventeen days. There were no adhesions in fourteen cases; slight adhesions in one

[1] After recovery from this attack, a small circular colourless gall-stone was found in the evacuations, and on examination was proved to consist of almost pure cholesterine.

case, and extensive adhesions with other complications in thirteen cases. In nineteen of the cases, only one ovary was removed; in the others both were diseased and removed. To these twenty-eight cases of my own, I may add four cases operated upon in my wards by my colleague, Mr. Meredith, in which strict Listerism without drainage was also employed; all recovered. So that we have thirty-two Listerian ovariotomies without drainage with only one death, and that a case of cancer. I have also performed eight other abdominal sections: A removal of uterine fibro-cyst, weighing 23 lb., together with both ovaries; a removal of several sessile and pediculate fibroids; an enucleation of a uterine fibro-cyst, weighing 10 lb.; a complete hysterectomy, with removal of both ovaries; and three oöphorectomies, undertaken for various conditions. All the patients recovered, with the exception of the hysterectomy, and she died of septicæmia. I had to open a much enlarged uterine cavity, which contained putrid material, and I failed to correct the putrefaction. This was the only case in which it was impossible to perform a strictly aseptic operation, and it was the only one terminating fatally. The total result is forty abdominal sections, with two deaths—a mortality of only 5 per cent. I may add that in no case were there symptoms of carbolism, though the 2½ per cent. solutions were used with all necessary freedom, and some of the patients had albuminuria before the operation.

COWGATE DISPENSARY, EDINBURGH.

DISLOCATION OF ULNA AT WRIST.

FOR the following notes we are indebted to Mr. A. Neve, L.R.C.S. & L.R.C.P., house-surgeon.

M. K——, an Irish girl about fourteen years old, while running quickly round a corner slipped and fell sideways. She did not throw out her hand to save herself, but fell in a heap on to the back of the hand, which was bent under her. Immediately after the accident she applied at the dispensary for relief. The hand was flexed and pronated, and at the back of the wrist was a considerable projection, which imparted to the hand the appearance of being displaced forwards.

On examination, it was found that the movements of flexion and extension were normal, but the latter was limited in degree; the attempt to supinate was painful, and the movement incomplete. The radius was intact; its relation to the carpus normal; the styloid processes were at the same level. Upon touching the swelling, which was at first thought to be effusion resulting from the blow, the nature of the injury became at once apparent. The projection was the distal end of the ulna, continuous with the shaft, dislocated backwards from the radius and lying slightly upon its posterior surface. Chloroform was given, partly in order that the limb might be examined without causing pain. The bones were easily pressed into place; anterior and posterior splints were then applied. Subsequently the patient was seen by Dr. John Duncan at the Royal Infirmary, who thought then that the lower attachments of the ulna to the radius had been ruptured.

Reviews and Notices of Books.

Lectures upon Diseases of the Rectum and the Surgery of the Lower Bowel. Delivered at the Bellevue Hospital Medical College. By W. H. VAN BUREN, M.D., LL.D., Professor of the Principles and Practice of Surgery in the Bellevue Hospital Medical College, New York. London: H. K. Lewis. 1881.

THIS is the second edition of Dr. Van Buren's Lectures, and bears evident signs of considerable alteration and enlargement, a process which has rather altered its character as a volume of lectures delivered at a hospital. The subject is dealt with in a practical manner and in a pleasant style, while the text is enriched with the brief record of many good illustrative cases from the experience of the author and other surgeons. Dr. Van Buren's object has been to teach the usually accepted views on the surgery of the rectum to his class of students, and not to advance new doctrines of his own. There is accordingly nothing specially novel to be found in these pages, and it is only needful to refer to one or two of the points that strike the reader. The author speaks well of forcible dilatation of the anus not only as an aid in operations upon the bowel, but as a curative measure for painful spasm of the sphincter, painful ulcer and fissure, and as a means of preventing the pain following operations upon the lower bowel. He incidentally compares it to forcible dilatation of a stricture of the urethra—an analogy which does not hold; for while the one is dilatation of a muscle, the other is rupture of mucous membrane and fibrous or cicatricial tissue. It is an analogy which has special danger, as the perils and purpose of the two operations are totally distinct. In the lecture on painful ulcer of the rectum, special stress is laid upon the bruising and injuries inflicted upon the rectum during parturition as a cause of the relative frequency of this affection in women. No doubt there is a great element of truth in this, but the affection is so common in single women and in the married quite apart from childbirth, that it is not right to attach much influence to such a cause.

In commenting upon the treatment of benign stricture of the rectum, it is asserted that the use of the bougie is too much relied upon, and that its reputation as a remedy is in part due to the large number of imaginary strictures supposed to have been cured by it; and Dr. Van Buren recommends complete longitudinal section of the gut along its posterior aspect as an operation of fair promise. He describes it as easy, and not apt to be attended with risk, when the sphincters are fully divided. Several cases of extirpation of stricture of the rectum are recorded; and this operation is recommended even in simple stricture where the canal is very narrow, and particularly if there be any doubt as to the nature of the stricture. Excision of the lower end of the rectum is still more strongly recommended for malignant disease if situated low down; and the author refers to nine cases of his own in which success followed the operation, which is certainly gaining in favour.

The superiority of inguinal to lumbar colotomy for congenital malformation of the rectum is, we think, wisely insisted on, but we believe the lumbar operation is not infrequently performed in such circumstances.

The Relation of the Abdominal and Pelvic Organs in the Female. By A. R. SIMPSON, M.D., and D. B. HART, M.D. Edinburgh and London: W. A. & R. Johnstone.

FOR some years past a good deal of attention has been paid to, or at least much has been written upon, position as a factor in the treatment of disease, especially in the treatment of disease of the pelvic organs in the female; and the value of the genu-pectoral or all-fours position has been placed at a very high estimate. Not only in the treatment of disease, but in other circumstances also, has this position been recommended, so that it might almost be questioned whether Nature had not made a great blunder in her last onward step—the evolution of the bimana. So great are the advantages claimed for the genu-pectoral position, and so deleterious would seem to be the influences of the upright, that (if the claims made were true) a return to a more primitive mode of progression would appear desirable, if not urgent—at least for the better half of the human race. Still more recent and possibly more accurate and scientific observations, however, make it plain that the advantages claimed for the genu-pectoral position are not so great as its advocates would have us believe.

The work before us, by Drs. Simpson and Hart, consists of a lithograph of a median longitudinal section of a female body frozen in the genu-pectoral position, air having been admitted into the rectum and vagina; together with letterpress descriptive of it, and of experiments made on the living and dead subject, with a view to determine accurately

the effects of the assumption of that posture on the position of the pelvic organs. The results of these experiments are totally adverse to the claims put forward in favour of the genu-pectoral position. They are—(1) When the position is assumed the pelvic floor approaches in a slight degree the diaphragm. (2) In the normal pelvis, when air is admitted into the vagina, the uterus recedes from the vulva and approaches the sacrum, and becomes more subverted. (3) When the uterus is retroverted and the vagina is distended with air the retroversion is exaggerated, the uterus receding from the vulva and approaching the sacrum. (4) When the uterus is retroverted and the rectum is distended with air, the fundus ascends and the retroversion disappears. It is evident from these experiments that the genu-pectoral position, with the admission of air into the vagina, is of little or no use in reducing retroversion and flexion of the uterus, for such reduction occurs in a very small percentage of cases only—a conclusion which accords with our own experience.

Fashion in Deformity, as illustrated in the Customs of Barbarous and Civilised Races. By W. H. FLOWER, F.R.S., Hunterian Professor of Comparative Anatomy, and Conservator of the Museum of the Royal College of Surgeons of England. Nature Series. London: Macmillan and Co. 1881.

THIS *brochure* is a reprint of a lecture delivered many months ago at the Royal Institution, considerably enlarged. The task of showing both the power that fashion exerts on its votaries and the cruel and absurd practices it has perpetuated is not difficult, and it is needless to say that in the hands of Professor Flower it has proved the theme of a most interesting lecture. The evils of the present form of boots and shoes are well explained, but we wish the disastrous effects of tight-lacing had received a larger share of attention. It is very interesting to learn the curious devices which savage races have practised, but among them all there are none more strange, and none even approximately so mischievous, as this abominable modern practice of enclosing part of the trunk in a rigid vice.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Mid-Warwickshire District.—This combined sanitary district includes the urban districts of Warwick, Rugby, Kenilworth, Milverton, and Lillington, and the rural districts of Solihull, Rugby, Southam, Warwick, and Meriden. The area of the combined district has 291,293 acres, and the total estimated population in 1880 was 96,604. Dr. George Wilson reports for the combined district during 1880 a birth-rate of 28·6 per 1000 of the population, and a death-rate of 18·2, the coresponding rates for England and Wales in the year being 34·6 and 20·7 respectively. A very interesting account of the sanitary work done in this district since the first appointment of Dr. Wilson as medical officer of health in 1873 was printed in the last annual report of the Local Government Board, and is reproduced in the appendix of Dr. Wilson's present report. This account, together with the present report as relates to the combined district and to each of the particular sanitary districts entering into the combination, enables the reader to form a fair estimate of the progress in public health administration which has been made in this extensive combination of districts since the passing of the Public Health Act, 1875, with the assistance and guidance of a highly competent and zealous medical officer of health. The result is on the whole highly satisfactory, and the present condition of the district may be best summed up in Dr. Wilson's own words: "From the appended summaries of reports of the sanitary inspectors of the several districts," he writes, "it will be seen that the removal of sanitary defects is steady and continuous. It is true that the number of notices which require to be issued are yearly becoming less numerous, on account of the general sanitary improvement of premises; but systematic inspection becomes none the less necessary, because many nuisances, such as those connected with closet accommodation, cleanliness, and repair of premises, water-supply, and overcrowding, are constantly recurring and cropping up." Dr. Wilson's report contains several suggestive matters. Speaking of the excessive mortality from infantile diarrhœa during the third quarter of the year, he observes: "Heat alone cannot be regarded as sufficient to account for the prevalence of this disease, because it is found that its incidence varies greatly as regards localities, conditions of life, modes of feeding, and sanitary surroundings. The important part which increased temperature plays in the production of infantile diarrhœa depends mainly upon the putrefactive changes which it induces in articles of food, and the more serious befoulment of the air if the premises are uncleanly, or the surroundings, such as closet accommodation and drainage, are in an insanitary condition. Feeding-bottles, which are now largely used by all classes, and especially by poor people, for feeding their infants, increase the rapidity and degree of the putrefactive changes of their contents, because, as a rule, they are not kept properly clean, and whether these consist of milk or other messes more frequently used in lieu of it, they speedily become tainted and unfit for food during periods of high temperature. During the previous year, for example, when there was no excessive heat in summer or autumn, the total number of deaths attributed to diarrhœa or dysentery in the combined district amounted only to twenty-nine, or about one-fourth of the number (107) which occurred last year, and yet the conditions and surroundings of the population in both years were practically identical." Speaking of scarlet fever, Dr. Wilson remarks on the reluctancy of teachers of elementary schools to report cases of infectious disease, dreading that the school should be closed, to their individual detriment; and with respect to the contemplated enactment of compulsory information of the cases of infectious disease by the medical attendant, he remarks that this would not meet the numerous cases among the poorer classes in which a medical attendant is not had recourse to. He mentions an instance of an outbreak of scarlet fever in his district, in which when his attention was first called to it he found that the disease existed in thirteen houses, but in one only had a medical man been called in. He gives the leading facts of a serious outbreak of sore-throat in the town of Rugby, in the month of March. The outbreak was mainly confined to three out of the eight boarding-houses connected with the school. About thirty boys in each house were more or less affected. As easterly winds were prevalent at the time, it was at first suspected that the sore-throat might have been due to atmospheric causes, but the fact of the outbreak, as first observed, being confined to the three boarding-houses, and three only, pointed to some cause much more limited in its operation, and suspicion fell on the milk-supply, the three houses being all supplied by the same milkman, the other boarding-houses obtaining their milk from other sources. On pushing inquiry in this direction, it was found that out of thirty-seven families in the town in addition to the three school houses receiving milk from the same dairy as many as fifteen had one or more members affected with symptoms exactly similar to those from which the school-boys were suffering. It was found, moreover, that the school-boys and the cases in the town had sickened from the 16th to the 18th of the month, the majority falling ill on the 17th. Further inquiry also showed that no similar cases of throat affection existed in the town other than those prevailing among families and the school houses supplied with milk by the particular dairyman. Dr. Wilson thinks it clear that the outbreak was attributable to some temporary tainting of the milk-supply in question, which occurred probably on the 15th or 16th day of the month, and he further surmises that the tainting may have arisen from the accidental admixture of pus-cells from an inflamed udder (*garget*) with the milk, a cow suffering from this affection being in the dairyman's cowshed at the time. The symptoms of the outbreak as noted by the medical officer of Rugby school were as follows:—"Feeling of cold down back, aching of limbs, stiff neck, headache, malaise, enlarged submaxillary glands, in the majority of cases sore-throat, but in some absent (sore-throat of character of ordinary catarrhal sore-throat), illness lasting on the average about forty-eight

hours, here and there a case of quinsy, a few took cold and had pleurisy, rheumatism, and some considerable debility; in no case was there any symptom of paralysis of any kind." Referring to recent immunity from typhoid fever in the towns of Rugby and Warwick, Dr. Wilson regards the fact as furnishing "gratifying testimony to the steady sanitary improvement which has taken place in both localities, and especially in respect to drainage, water-supply, and scavenging."

METROPOLITAN WATER-SUPPLY.

The report of Messrs. Crookes, Odling, and Meymott Tidy on composition and quality of daily samples of the waters supplied to London, during the month of July, show that the water delivered was, with one solitary exception, well filtered and of excellent quality; and they express their opinion from these examinations of the "suitability" of the water in every way for the supply of the metropolis. In the solitary instance in which the filtration was defective, a sample of water taken from the mains of the Southwark and the Vauxhall Company was found to be "very slightly turbid."

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

The rate of mortality in our large towns continues to decline. In twenty of the largest English towns 5153 births and 3167 deaths were registered last week. The births were 33 and the deaths 90 below the average weekly numbers during 1880. The annual rate of mortality in these twenty towns, which had been equal to 25·2 and 22·9 in the two preceding weeks, further declined to 21·7 last week. The lowest rates in the twenty towns last week were 14·7 in Bradford, 17·2 in Wolverhampton and Oldham, and 18·4 in Norwich. The rates in the other towns ranged upwards to 24·3 in Liverpool, 26·1 in Nottingham, 26·2 in Leeds, and 36·9 in Leicester.

The deaths referred to the principal zymotic diseases in the twenty towns declined to 836 last week; these included 488 from diarrhœa, 110 from scarlet fever, 87 from measles, 61 from whooping-cough, 42 from fever, principally enteric, 29 from small-pox, and 19 from diphtheria. The annual death-rate from these zymotic diseases averaged 5·7 per 1000 in the twenty towns. Scarlet fever showed the largest proportional fatality in Nottingham, Leicester, and Hull; measles in Liverpool and Sheffield; and whooping-cough in Birmingham and Leicester. Diarrhœa fatality showed a further general decline; the death-rate from this disease averaged 3·3 per 1000, and ranged from 0·0 in Oldham to 6·1 and 16·5 in Nottingham and Leicester. Small-pox caused 35 more deaths in London and its suburban districts, but not one in any of the nineteen large provincial towns. The number of small-pox patients in the Metropolitan Asylum Hospitals, which had declined from 1644 to 773 in the nine preceding weeks, further fell to 692 on Saturday last, including 138 in the *Atlas* hospital ship and 111 in the Convalescent Camp Hospital at Darenth. The new cases of small-pox admitted to these hospitals during last week were 112, and showed a further decline from recent weekly numbers.

The deaths referred to diseases of the respiratory organs in London declined to 147 last week, against 156 and 163 in the two preceding weeks. The causes of 61, or 2·0 per cent., of the deaths in the twenty towns last week were not certified either by a registered medical practitioner or by a coroner. In London the proportion of uncertified deaths did not exceed 0·6 per cent., whereas in the nineteen provincial towns it averaged 3·2.

HEALTH OF SCOTCH TOWNS.

The annual death-rate in eight of the largest Scotch towns, having a population now estimated at rather less than a million and a quarter of persons, which had been equal to 18·2 and 21·1 in the two preceding weeks, declined again to 18·9 last week; this rate was 2·8 below the average in the twenty large English towns. The deaths referred to the principal zymotic diseases in the eight towns were 86 in number. The fatal cases of diarrhœa in the eight towns, which had been 22, 39, and 48 in the three preceding weeks, declined again to 37 last week, and were equal to an annual rate of 1·6 per 1000, which was less than half the rate from the same disease in the twenty English towns. The deaths referred to typhus were 9 last week, of which 7 occurred in Glasgow. The annual death-rate from "fever" averaged 0·39 per 1000 in the eight towns, against 0·29 in the twenty English towns. Infant mortality showed a decline in the eight towns last week, and was considerably below the rate in the English towns.

HEALTH OF DUBLIN.

The annual rate of mortality in this city, calculated upon the population enumerated in April last, which had been equal to 17·5 and 19·4 per 1000 in the two preceding weeks, rose to 22·2 last week. During the past six weeks of the current quarter the death-rate in the city averaged 20·9 per 1000, against 21·5 in London and 16·5 in Edinburgh. The 149 deaths in Dublin last week showed a further increase of 19 upon the low numbers returned in the two previous weeks; they included 16, or 7 per cent., which were referred to the principal zymotic diseases, against 10 and 14 in the two previous weeks.

HEALTH MATTERS GENERALLY AT HOME AND ABROAD.

THE MILK EPIDEMIC IN ABERDEEN.

The report of Dr. H. Littlejohn and Mr. A. Rutherford, Advocate, the Commissioners appointed by the Board of Supervision to inquire into the epidemic which occurred in Aberdeen in March and April last, and was believed to have been caused by polluted milk, has now been published. It appears that between March 25th and April 15th 304 persons were seized with illness in 89 households supplied with milk from a particular dairy; 18 other persons were also attacked at uncertain dates, making the total number of cases of illness 322. The one condition common to the households was the milk-supply, and it was early suspected that it had been the medium of conveyance of some virulent matter to the affected persons. The detailed inquiry made it clear that the milk as it came from the cow was free from any injurious quality, and that it must have become contaminated with some noxious substance after it had been collected. Certain observations of Professor Cossar Ewart, made upon a sample of the milk at the time when it was exercising its mischievous effects, showed that it contained numerous microscopic organisms (micrococci and bacteria); when administered to rats it proved fatal to them. Samples of the milk collected and examined at a later date, taken directly from the cow, contained no organisms, and exercised no injurious effects upon rats. At the inquiry it was elicited that immediately preceding and at the time of the epidemic the water-supply of the suspected dairy had been seriously disturbed, and that for a time water had been obtained for the use of the dairy from very suspicious sources, among others from road-side ditches. The Commissioners conclude: 1. That the epidemic was caused by poisonous organic matter supplied to customers from the suspected dairy. 2. That the milk when taken from the cows was innocuous, and that it subsequently acquired its hurtful properties; that poisonous organisms were contained in the cistern in the byre of the suspected dairy, and in the water passing through that cistern, and were thence communicated to the milk, but by what means there is no evidence to show. The Commissioners bestow high commendation on the action of Dr. Beveridge, the chairman of the Public Health Committee, during the outbreak, but it is to be inferred that the want of a medical officer of health at the time must have been seriously felt.

THE PERIODS OF INCUBATION AND INFECTION.

The Forfarshire Medical Association had under consideration at a recent meeting, and for the purpose of promoting uniformity of practice amongst its members in their management of infectious fevers, the questions of period of incubation and duration of infectiveness, and they decided to adopt for practical purposes, and without going to extremes, the following periods of incubation: For small-pox, typhus, whooping-cough, measles, fourteen days; scarlet fever and diphtheria, eight days. Convalescents from these fevers should be considered as still liable to give off infection until the expiry of a period of time, counting from the beginning of the illness, ranging for each fever as follows—whooping-cough eight weeks, scarlet fever seven

weeks, measles six weeks, diphtheria six weeks, typhus four weeks, small-pox fourteen days after disappearance of scabs.

THE FULHAM SMALL-POX HOSPITAL.

Mr. Bompas, Q.C., applied to Mr. Justice Cave on Wednesday, that the case of "Taylor and others *v.* the Managers of the Metropolitan District Asylums Board" might be heard on appeal from Mr. Justice Bowen, in Chambers, by a Divisional Court, to sit in the vacation. Mr. Bompas said the case involved the question of keeping open the Fulham Small-pox Hospital, and the necessities of the case were urgent. Mr. Justice Cave said he would communicate with Mr. Justice Kay, and form a Divisional Court that day week, at eleven o'clock.

THE SERVICES.

THE VOLUNTEER REVIEW IN EDINBURGH.

Amongst the orders issued for the guidance of volunteer officers at the coming Royal Review in Scotland we notice the ambulance bearers are not omitted. The stretcher bearers of corps are ordered to march past in rear of their respective battalions with their stretchers and side arms. The field hospitals are detailed to be organised on the basis of the Windsor Review at convenient places readily accessible to the men. The whole medical arrangements are to be made by the Principal Medical Officer of the Northern District, Deputy Surgeon-General J. P. Cunningham.

Deputy Surgeon-General B. Simpson, M.D., Bengal Medical Service, is gazetted Principal Medical Officer of the Quetta Division under Major-General R. Hume, C.B., from June 14th, 1881.

The Indian papers are urging the Viceroy to abandon Meean Meer as a station for European troops on account of its reputed unhealthiness.

INDIA OFFICE.—Brigade Surgeon Robert Bird, M.D., Bengal Army, and Surgeon-Majors W. H. Harris, M.D., and S. J. Wyndowe, M.D., Madras Army, have retired. Surgeon H. Mallins, Bengal Army, has resigned. Brigade Surgeon-Major E. Taylor, Bengal Army, to be Deputy Surgeon-General.

MILITIA MEDICAL DEPARTMENT.—Surgeon Robert Lucas, 3rd Battalion, the Royal Scots (Lothian Regiment), to be Surgeon-Major. Surgeon-Major Henry James Paine, 3rd Battalion, the Welsh Regiment, resigns his commission; also is permitted to retain his rank, and to wear the prescribed uniform on his retirement.

ADMIRALTY.—The following appointments have been made:—Fleet Surgeon William Anderson, to the *Duncan*, additional for the Royal Marine Depôt at Walmer; Fleet Surgeon Robert Humphreys, to the *Revenge*, additional for the Royal Marine Battalion at Cork; Fleet Surgeon James Flanagan, to the *Defence*, vice Lander; Staff Surgeon George B. Beale, M.D., to the *Valorous*, vice Magill; Staff Surgeon Alexander M'Donald, M.D., to the *Clyde*, vice Humphreys; Staff Surgeon William Graham, to the *Achilles*, vice M'Donald; Staff Surgeon Henry S. Lander, to the *Serapis*, vice Sutherland; Staff Surgeon Frederick M'Clement, to the *Thunderer*, vice Flanagan; Staff Surgeon R. S. P. Gripaha, to the *Orontes*; Surgeon Arthur W. Russell, to the Hong-kong Hospital, vice Vesey; Surgeon Evelyn R. H. Pollard, to the *Zephyr*, vice Russell; Surgeon J. A. M'Munn, B.A., M.D., to the *Victor Emmanuel*, vice Browne; and Surgeon William Hayes, to the *Boadicea*, vice Pollard; Surgeon Richard G. Brown, to the *Firebrand*, vice Trevan; Surgeon William E. Bennett, to the *Royal Adelaide*, vice Brown.

ARDWICK AND ANCOATS DISPENSARY.—The Committee's report read at the annual meeting of the subscribers to this institution, held last week in Manchester, stated that the financial condition of the dispensary was such that immediate and imperative steps must be taken to place it on a more satisfactory basis. Dr. Martin, the medical superintendent, spoke of the great need which exists of day nurseries in the district.

A WING of the City of London Hospital for Diseases of the Chest is stated to be at present unoccupied, in consequence of lack of funds.

BRITISH MEDICAL ASSOCIATION.

THE sections commenced work on Wednesday afternoon. In that of Medicine, after an address by the President, Dr. Long Fox, Dr. Wade opened a discussion upon Dilatation of the Stomach in a fairly exhaustive speech, pointing out the conditions giving rise to dilatation, the means for its diagnosis, and the nature of the treatment to be employed. He believed that chronic catarrh was a main factor in its production, and that an over-acid condition of the secretions excited pyloric spasm; that the presence of sarcina was the great indication, and that salicylate of soda and sulphurous acid were valuable drugs. He thought the practice of washing out the viscus useful, but that it should be employed with caution. A member alluded to a fatal case of chorea, where there was great dilatation of the stomach, pointing to paralysis of the organ, and bore testimony to the great relief given by the frequent use of the syphon tube. Another speaker pointed out that in conditions of chronic catarrh the stomach lost its absorbent powers, and that the fermentation of its contents led to dilatation. Dr. Hayden of Dublin said that the use of the tube was not sufficiently practised. He mentioned a case which had been much benefited by washing out the organ with hydrosulphate of soda. Symptoms of pyloric obstruction did not warrant a diagnosis of organic disease unless a tumour were felt. Dr. Silver pointed out that there were cases where the stomach retained its contents for days, and then relief was afforded by vomiting. The thick coating of mucus in gastric catarrh interfered with its absorption, and solid food remained unchanged for some time in the viscus. Emetics were indicated in such cases. Dr. Thompson of Leamington, and Dr. Withers Moore of Brighton, also spoke in recommendation of the syphon tube. A paper was also read by Dr. Shingleton Smith on cases of Diabetes treated with Codeia.

In the section on Surgery, the President, Mr. Coates, introduced the subject of the treatment of Hæmorrhoids, and papers were read by Mr. Norton on a new operation for the cure of Web-fingers; by Mr. Harrison on the treatment of Stricture by Stretching; and by Mr. Spanton on cases of Immediate Cure of Inguinal Hernia.

In the section of Public Medicine, where Dr. Ransome presided, a paper was read by Dr. Strange of Worcester upon the Origin and Diffusion of Enteric Fever and Diphtheria, in which he argued against the *de novo* theory of origin. Dr. Davey of Ryde followed in a paper on the prevention of Enteric Fever, calling especial attention to defects in house-drainage. Many members took part in the discussion upon these papers.

At the general meeting on Thursday, August 11th, Mr. Sibley presented the report of the Parliamentary Bills Committee, the most important part of which was the announcement of the decision to introduce a Bill early next session upon the subject of the compulsory notification of infectious disease; and it was stated to be likely that a select committee would be appointed to inquire into the matter. The adoption of the report was proposed by Mr. Sibley, seconded by Dr. Ransome, and carried after a short discussion and a division on an amendment moved by Mr. Michael, Q.C., and seconded by Dr. Fitzpatrick, to the effect that the committee sanction the Bill introduced by Mr. G. W. Hastings on the part of the Social Science Association.

The Address on Surgery was then delivered by Mr. Jonathan Hutchinson. He commenced by alluding to the wide scope of surgery in the present day, and the arguments in favour of the cultivation of its various branches. Speaking of special branches, he pointed out how much medicine had been aided by ophthalmology; and how the study of diseases of the skin, once regarded with contempt by leading surgeons, was being more and more cultivated by general physicians and surgeons. Indeed, dermatology should be regarded as fundamental in medical education—presenting in so plain a manner leading facts in pathology; and that its study was bearing fruit might be seen in the fact that so many cutaneous diseases were shown to depend upon deeper-seated disorder. Thus herpes is a neuritis; morphœa an affection of vaso-motor nerves; leprosy, a dietetic problem, and so on. Passing by the subject of homœopathy with the remark that he intended to have said something in the sense of that which had been so ably expressed the day before

by Dr. Bristowe, in favour of abandoning the practice of not meeting those homœopaths who worked honestly, Mr. Hutchinson took up the subject of medical education. He said that the great defect in our English system was that it made no provision for engaging the services of those who were most qualified by experience to teach. At the time when their value as teachers was greatest, they had to withdraw from the work by the claims of private practice, or by a rule of enforced retirement. For, unfortunately, success in our profession meant the absorption of the whole time and energy in private practice, public teaching being either cramped or entirely extinguished in consequence. As a remedy, he suggested the establishment of another rank of pure consultants, whose fees should allow them to make the income they do at present without exacting all their time. Our best men are far too valuable for such services as they are now compelled to devote themselves to; and were some such scheme adopted as he suggested, they would not, as now, withdraw from their public appointments and positions as teachers, but would seek rather to retain them. A large part of the education of students can be done by younger men; but experience must tell in imparting the knowledge of disease at the bedside, and in forming a correct estimate of the symptoms of disease. Further, he suggested that examining boards might recognise as private teachers all those who could bring proof of special opportunities of clinical teaching, allowing the board to have a control over such certificated teachers according to the proportion of rejections of their pupils at the examinations. The increasing amount of knowledge required of medical practitioners was shown in the increasing ratio of "plucks" to "passes" at the examinations, which might be met by an extension of the period of study, a well-considered limitation of the subjects to be learnt, and a careful attention to the methods of instruction. At the same time he thought that the practice of early examinations, with a consequently increasing list of rejections, did work well; and that in the future it may come to be a great credit for a candidate to pass the first time he presented himself, and no disgrace to be rejected. The great duty of teachers and examiners lay in this: to draw a clear distinction between the essential and non-essential parts of knowledge. In the present day it was not the duty of the professor to discourse upon original researches, but to see that his pupils learnt properly from books. He should be an expositor of books, and not of his own original opinions. A great element in education, and destined in the future to have a chief place, was the "students' museum." A museum was a permanent record, open to all comers, of facts in anatomy and pathology, and it ought to be as legible as a book. For the student's purpose it should contain everything that he wants, well arranged, with ample space for its exhibition. Anatomical facts ought to be copiously illustrated by dissected preparations, casts, drawings, and diagrams; and diseased structures should be shown side by side with the normal. Everything should be illustrated, and no knowledge taken for granted. The students' museum should be wholly distinct and separate from the reference museum, which should be a storehouse for orginal investigation; and this museum ought to contain the fullest possible information respecting the symptoms of disease, illustrating by models and drawings the pathology of the living as well as of the dead. In this respect the Hunterian Museum—without a rival in the world—could be made of greater value by illustrating the effects of disease or injury on the living subject, and embracing every advance made in the domain of surgery. Mr. Hutchinson concluded his address by urging his hearers to adopt as their motto the words he had once read on a tombstone in a cathedral, "Credo, spero, amo."

Professor Humphry, in an eloquent speech, proposed a vote of thanks to Mr. Hutchinson for his address. This was seconded by Professor Stokes, who differed from the lecturer on the subject of homœopathy. He could not see how there ever could be anything in common between homœopathists and orthodox medical men. There never had been, there was not now, and there never could be. It was, however, a further satisfaction that there was no room in surgery for those gentlemen, no matter how high-minded, and he was happy to re-assert an observation made by a great man, that surgery was the salvation of medicine. The resolution was carried with acclamation, and Mr. Hutchinson briefly responded.

Professor Humphry then moved the following resolution, of which he had given notice:—"That this Association desires to express its deep sense of the importance of vivisection to the advancement of medical science, and the belief that further prohibition of it would be attended with serious injury to the community, by preventing investigations which are calculated to provide the better knowledge and the treatment of disease in animals as well as in men." Before venturing to propose this resolution, he said he had thought long and seriously on the subject and had mentioned it to a considerable number of the members of the Association, everyone to whom he had spoken about it being of opinion that as there was so much misrepresentation and exaggeration indulged in about vivisection—and he was very sorry that the Legislature was likely to gather wrong opinions in consequence—it was the duty of the British Medical Association to give utterance to its views with no uncertain sound. In the course of his remarks the learned professor argued that nearly every advance that had been made in science during modern times, and their knowledge of the movement and functions of the organs of the human body, had been acquired by means of vivisection. He referred in eloquent terms to the discoveries of M. Pasteur, as brought to light at the Congress in London, and combated the objections raised to vivisection, one amongst them being that the practise of it hardened the heart of the student and made him less sympathetic towards those in pain. He wished especially for the public to know that those who practised it were in the habit of placing the animals in a condition of anæsthesia, or chloroform, whenever it was convenient to do so, and they never caused unnecessary pain. Mr. Husband seconded the resolution, which was carried with but one dissentient.

The sectional meetings in the afternoon were fairly well attended, especially those of Surgery and Public Medicine. In the former, a debate on Resection of the Knee in early life was opened by Mr. Stokes of Dublin, and was well sustained; in the latter, the subject of Animal Vaccination was debated, Mr. Hart, Dr. Warlomont, Dr. Martin of Boston (who spoke warmly against variolous inoculation of cattle to produce vaccinia), and Dr. Renner being the chief speakers; and a resolution was drawn up on the motion of the last-named, which was submitted to the final general meeting of the Association on the following day. In the Section on Medicine, after a paper by Dr. Tyson of Folkestone upon Rectal Alimentation, the subject of Acute Spinal Paralysis was opened by Dr. Gowers, who limited his remarks chiefly to the affection better known as "infantile paralysis," where the anterior grey cornua are the seat of the lesion, presumably inflammatory; where the symptoms come on acutely or subacutely, the muscular paralysis ensuing being at first general, then limited in distribution, and accompanied by wasting. It is not hereditary, and as to its proximate etiology, he asked for facts upon the influence of teething, and thought the influence of cold had been exaggerated. Sometimes it followed upon acute specific diseases, as measles and typhoid fever. He described the onset and symptoms of the affection, and the importance of its early recognition and electrical treatment, and stated that he had met with two cases of lateral sclerosis in adults who had had infantile paralysis in early life. Drs. Long Fox, Withers Moore, and Shingleton Smith took part in the discussion. In the Section of Obstetric Medicine a discussion upon the Mechanical Treatment of Uterine Flexions and Displacements was opened by Dr. Sinclair Coghill, and a paper on Sterility was read by Dr. Edis. In the Subsection of Otology the Treatment of Acute Suppurative Inflammation of the Middle Ear, with especial reference to Perforation of the Mastoid, was discussed.

On Friday, August 12th, the address on Obstetric Medicine was delivered by Dr. Sinclair Coghill of Ventnor, and immediately on the close of the work in the sections the final general meeting was held. The report of the Habitual Drunkards Committee was adopted, as was that of the Medical Reform Committee after a debate and division, exception being taken by some members to a clause of the report which recommended that the Apothecaries' Society should be deprived of its licensing powers. An amendment to the effect that the Society should retain its present rights and privileges was lost, only nine members voting in its favour. Professor Humphry then moved the adoption of the report of the Scientific Grants Committee, a sum not exceeding £300 being voted for the purposes of the Committee. Then followed votes of thanks to the officers of the

Association, the Reception Committee, and the business of the Association was concluded.

The short time at the disposal of the sections on this day did not permit of all the papers set down for the programme being read. In the Medicine Section Dr. Brunton opened a debate on Jaundice, in which he maintained the view that all forms of jaundice were hepatogenous in origin, depending on differences in pressure in the bile-ducts on the one hand, and the bloodvessels on the other; so that a very slight obstruction in the former, whether in the main ducts or within the liver itself, sufficed to procure the passage of bile into the blood. He enumerated the causes leading to obstruction. Lessened blood pressure as a cause of jaundice probably took place in those cases where jaundice followed no mental emotion or anxiety. He pointed out that the liver had the power of regulating the flow of blood through the portal system; a most important function considering the amount of blood contained in that system, and the secondary gastro-intestinal derangements that ensued when the circulation through the liver was deranged. As to treatment, he spoke chiefly of the value of Carlsbad salts, taken in small quantities repeatedly by "sipping"; and of ipecacuanha in conditions of catarrh. Dr. Saundby remarked that under physiological conditions the biliary colouring matters were excreted by the kidneys; and referred to Dr. M'Munn's spectroscopic observations, which tend to show that the conversion is effected by oxidation in the blood. Dr. Hadden read a paper discountenancing the use of the cold bath in the treatment of pyrexia, on the ground that its employment was based upon an unknown theory; but his objection did not meet with support.

This brief summary ought not to close without a reference to the very complete arrangements made for the entertainment of the members. Special railway facilities were afforded them; a steam-launch was placed at their disposal, and a special visit paid to the Roman villa at Brading. Several gentlemen opened their grounds, amongst whom may be especially mentioned the Rev. A. Locock (son of the late Sir Charles Locock), who entertained the members at a garden party at Banstead on Thursday, and Mr. Tennyson, whose grounds at Freshwater were visited in the course of one of the excursions on Saturday. The soirée at the Town Hall on Wednesday was well attended, and was very successful. The annual dinner took place on Thursday, and on the following day Mr. and Mrs. Barrow had a garden party in the grounds of the Isle of Wight College. The excursions on Saturday were most numerously attended. About 250 ladies and gentlemen were conveyed to Sandown by train, and there regaled with coffee in the grounds of Miss Tottenham, proceeding from Sandown in carriages to Shanklin, and thence to Ventnor, where a *déjeuner*, given by the residents, took place in the grounds of Dudley A. Hambrough, Esq., J.P., at Sheephill Castle, the chair being taken by Mr. Martin. The National Hospital for Consumption was visited, and the party thence proceeded to Blackgang, where they were received by Robert Pinnock, Esq., J.P. The journey was continued to Carisbrook Castle, where the members were received at luncheon by the Mayor and residents of Newport. The other excursion was by steamer from Ryde to Alum Bay, thence to Freshwater, Yarmouth, and Cowes, proceeding finally to Carisbrook, where quite 400 were assembled. The excellent arrangements for the conveyance of so large a number of visitors—greatly in excess of the estimated number—reflect much credit upon the reception committee, and especially upon Dr. Groves, whilst the genial hospitality evinced on all hands, combined with the beauty of the island they visited, must have made a lasting impression upon all those who took part in these excursions.

BROADMOOR ASYLUM.

THOSE members of the International Medical Congress who interested themselves in the subject of Lunacy visited the State Lunatic Asylum at Broadmoor, Berkshire, at the invitation of Dr. Orange, the medical superintendent. The party consisted of Americans, French, Germans, Italians, and English. Mr. J. Walter, M.P. for the county of Berks, in his capacity of county magistrate and one of the council of the Broadmoor Asylum, met the visitors.

After a sumptuous luncheon (provided by Dr. Orange, and served in the theatre of the asylum), Mr. Walter, M.P., in proposing the toast of "the distinguished visitors from all parts of Europe and America," expressed a hope, nay, a conviction, that such gatherings of scientific men could not fail to advance the special departments of knowledge in which they had severally distinguished themselves; and there could be no department which would call forth more sympathy and heart-felt sorrow than that which interested itself in the sad affliction—the most hopeless of all—of the unfortunate inmates of a State criminal lunatic asylum. There might seem possibly to the gentlemen present a contradiction in the name "Criminal Lunatic Asylum," inasmuch as an irresponsible person could scarcely be regarded as capable of crime. But even if in the name the semblance of an error appeared, it did suggest one curious, and at present insufficiently explained, phenomenon—that is, the curious connexion between crime and insanity, for where one was present in a family, there too the other often presented itself.

The toast of "the distinguished visitors" was responded to in Italian by Dr. Tamburini, of Reggio, Italy, and in French by Dr. Motet and Dr. Foville of Paris, after which the gentlemen were conducted over the asylum. At the conclusion a brief history of the origin and growth of State lunatic asylums, by Dr. Nicholson, was presented to each visitor. Three attempts on the life of George III. by lunatics directed attention to the insufficient provision for their safety. Lord Kenyon, the judge who tried the last of the three cases, in summing up the evidence said, in reference to the prisoner Hadfield, an undoubted lunatic, "For his own sake and for the sake of society at large he must not be discharged, for this is a case which concerns every man of every station, from the king upon the throne to the beggar at the gate; people of both sexes and all ages may, in an unfortunate frantic hour, fall the sacrifice of this man, who is not under the guidance of reason, and therefore it is absolutely necessary for the safety of society that he should be properly disposed of, all mercy and humanity being shown to the unfortunate creature; but for the sake of the community he must somehow or other be taken care of, with all the attention and all the relief that can be afforded him." These humane words might have been applied to one and all of the 500 State lunatics now under care in the asylum at Broadmoor, and each one may be said truly to be having all the relief that can be afforded him in his unhappy condition, under the care of Dr. Orange, the chief, Dr. Nicholson, and Dr. Isaac, the deputy medical officers.

MEDICAL NOTES IN PARLIAMENT.

ON Thursday, the 11th inst., in the House of Lords, the Royal assent was given to the Alkali Works Regulation Act.

In the House of Commons, Mr. Hastings's Infectious Diseases Notification Bill was withdrawn.

On Friday, a copy of Professor Brown's report on anthrax was presented, as also was the annual report of the Scotch Lunacy Commissioners.

The Poisoning of Mr. Hone.

Mr. Forster stated, in reply to Mr. Gibson, that a coroner's inquest was held upon the body of Mr. Hone, who died at Limerick from poisoning by carbolic acid, which was supplied by a chemist in mistake for a black draught. The jury found that it was an accidental circumstance, and recommended that poisons should be more carefully guarded. The porter of the establishment was brought before the magistrates and discharged. There appeared to be no necessity for further inquiry into the case.

On Saturday, a discussion was raised, on going into Supply, with reference to the treatment of emigrants on board Transatlantic steamships.

On Monday, the annual report of the Lunacy Commissioners to the Lord Chancellor was presented. The Royal University of Ireland Bill (Lords) was read a second time. Mr. Stansfeld gave notice that early next session he will reintroduce his Bill for repealing the Contagious Diseases Acts. Mr. Forster stated to Mr. Biggar that the Registrar-General had removed from office a Belfast publican who acted as deputy-registrar. Viscount Crichton asked the Chief Secretary for Ireland whether he was aware that great dissatisfaction existed in Ireland at the narrow and limited nature of the inquiry into the death of Mr. Hone. Mr. Forster said he

was waiting a report from the sessional Crown solicitor before deciding whether or not a new inquiry should be held.

On Tuesday, Mr. O'Donnell gave notice of a further question to Lord Hartington, as to the low dietary, heavy punishments, and excessive mortality in gaols in Bengal. Mr. Dodson stated to Sir R. Cross that additional inspectors of alkali works would be required under the new Act, and no time would be lost in putting the measure into operation.

Vaccination of the Lower Animals.

Mr. Dodson replied to Mr. Gibson that he had seen the address delivered by Dr. Pasteur at the Medical Congress, on the subject of vaccination of the lower animals, and was fully sensible of its importance. He had received a communication from the president, who had promised to furnish him with a copy of the address. Upon receiving it he hoped to lay it on the table of the House, so that it would be circulated amongst hon. members.

The Royal University of Ireland Bill was read a third time and passed.

Indian Questions.

On Thursday, in reply to a series of questions by Mr. O'Donnell, Lord Hartington admitted the excessively high death-rate which had prevailed in some of the Bengal gaols, but said there was now a considerable improvement. Flogging had recently been resorted to less frequently, but he was sorry to say there had been a considerable increase of grave offences since that reform was initiated. A special committee of the Indian Council was now considering the question of the high mortality in the gaols. As to the Bengal native army, it was true that a very large proportion of the soldiers went into hospital with fever, and the attention of the Viceroy had been directed to the necessity of improving their dwellings.

The Army Hospital Corps.

Mr. T. P. O'Connor has given notice of the following question for Friday: To ask the Secretary of State for War whether there is an officer of the Army Hospital Corps who has held the relative rank of captain for twenty-five years; whether another officer of the Army Hospital Corps has as such frequently sat as president of courts-martial; whether another officer of the Army Hospital Corps has been the *bonâ-fide* commanding officer of a force of officers and men about equal to that of a regiment; and whether there is any precedent for making quartermasters of officers with such antecedents as these officers; and, if not, whether he thinks it wise to establish a precedent in case of officers promoted from the ranks.

Correspondence.

"Audi alteram partem."

PROFESSOR HUXLEY'S ADDRESS AT THE INTERNATIONAL MEDICAL CONGRESS.

To the Editor of THE LANCET.

SIR,—Professor Huxley, in his late address before the International Medical Congress, stated that "the foundations of medical science were laid in Greece, and the earliest contributions to the subject were the votive tablets inscribed with the symptoms of their diseases which supplicants for health presented at the shrine of Æsculapius." I desire to point out that this is an assumption on the part of the learned Professor inconsistent with recent knowledge, and can be attributed only to the fact that his survey has not extended beyond the narrow limits of so-called classical antiquity. That this is so, one fact alone, which ought to be of particular interest to the medical profession, will suffice to show. In the year 1873 Professor Ebers of Berlin discovered in Egypt a precious hieratic manuscript, one of the largest and best preserved in existence. This papyrus, consisting of 110 pages entirely devoted to the diagnosis and treatment of bodily diseases, both internal and external, was written in the sixteenth century before Christ. This opens to us an immense vista of time during which the knowledge it embodies had been accumulating—a time as remote, probably, from the days of early Greek science as those days are from our own period. Egypt is now known to have been exceedingly rich in materia medica, and we accordingly find enumerated in the Ebers' papyrus a great multitude and variety of drugs, together with the weights and measures in which they were to be prescribed. A principal section of the work, occupying some eight full pages, relates to affections of the organ of vision, and is headed "The Book of the Eyes." Several poisons, particularly strychnia, were familiar to the ancient Egyptians; and the nepenthe referred to Egypt in the fourth book of the Odyssey was not improbably opium. Again, if Professor Huxley concedes to the obstetric art the honour o being a branch of medicine, it is impossible to read the first chapter of Exodus without seeing that the Egyptian midwives were a constituted and expert class, and exercised their calling universally in the time of the Pharaohs. Nor can there be a doubt that the medical lore acquired in the valley of the Nile extended, like the Pythagorean philosophy, to Greece. The manuscript above referred to, and now so singularly recovered by Professor Ebers, was known to the School of Alexandria under the name of the Book of Hermes—that is, the god Toth, to whom it is inscribed, and whose revelation it professes to be.

Now that Egyptology is being rapidly popularised, and that, by the zeal of an English surgeon, a famous monument of ancient Egypt is naturalised in our midst, I hope these observations may not be thought hypercritical or inappropriate. But it seems to me scarcely complimentary to the eminent fellow-townsman of Professor Virchow that his remarkable discovery, so pertinent to the history of medicine, should be ignored in presence of the first General Medical Congress assembled in England. I remain, Sir, yours truly,

August 12th, 1881. T. FITZPATRICK.

THE INSANE IN PRIVATE DWELLINGS.

To the Editor of THE LANCET.

SIR,—In corroboration of the remarks made by Dr. C. Lockhart Robertson, in his address on Mental Diseases, Section VIII., to the members of the Medical Congress, on the advantages to the insane from residence in private dwellings, I hope I shall not be considered intrusive or vainglorious if I state that, after a very extended experience, I can testify personally to the great benefit conferred on many mental sufferers by this mode of dealing with them. Out of numerous cases that have come under my notice and treatment let me quote one.

Early in March last I received a visit from a gentleman who told me he wished to ask my advice concerning a brother of his, a student of art, who some months back had become insane, and was now resident in a large asylum in town. The physician-superintendent thought the case a bad one, and gave a very gloomy prognosis; he said he considered it probable, from the nature of the attack and the general symptoms, that there was a strong probability the patient would never recover his reason, or be fit again to be at large. Mr. G—— explained to me that he had seen his brother himself lately, and was much disheartened at his state, but he had determined not to consent to the life-long incarceration of a relative without making some effort on his behalf, and therefore wished to know if I would visit him and see what could be done for him out of an asylum. In compliance with his wishes I went up to town, and in company with the brother paid a visit to the patient at the institution where he was resident. No difficulties were thrown in my way. Mr. R. G—— was brought to us by an attendant alone, and I had a prolonged interview with him. I found him very excitable, incoherent, and restless; he talked incessantly, and, though he recognised his brother, would not converse with him, but rambled on in a very disconnected fashion, and attempted to perform a somersault on the floor. His face, however, did not wear a bad expression, and there were occasional gleams of intelligence in his eyes. The interview over, Mr. G—— asked my opinion of his brother's condition, and I felt bound to tell him I could not speak very hopefully of it; still I did not despair, and would make the experiment of out-door treatment, with sufficient attendant protection. The needful transfer orders having been procured, I brought him into the country, accompanied by two attendants, and during a rather prolonged railway journey he talked incessantly (jabbered would, perhaps, be a more appropriate word), and when sandwiches and oranges were offered him he bolted them whole in a very dog-like fashion.

Now, will it be credited that in less than a week this hopelessly incurable man became quiet, sane, and tractable for twelve hours together? This was followed by a relapse

of such an acute character that I wavered in my own mind, and almost resolved to give up my experiment for his cure. Fortunately for him I did not do so, but persevered, and very soon (i.e., in a few days more) had the happiness of seeing the cloud lift and pass away completely; and up to the present time he has been rational and well-conducted, exemplary in behaviour and deportment, enjoying ordinary pleasures and amusements, taking a daily swim in the sea, and revelling much in recovered health and freedom.

Here, surely, is proof positive of the advantages derived from treatment in a private dwelling, under the eye of a medical practitioner, and aided by skilled attendants. Ah! and how much there is in the selection of suitable attendants, and the supervision of them as well as the patient. My experience has taught me that a certain amount of discriminative skill in the choice of the male or female attendant is all-important so far as effecting a cure is concerned; and on more than one occasion a happy thought or inspiration as to the kind of person needed in a certain case, either to act as companion or to exercise control, has rapidly led on to highly satisfactory issues.

I feel that I have already trespassed unpardonably on your space, but when eminent psychologists are throwing the electric light of their genius and life-long experience on points connected with the care and cure of the insane, it may not be out of place to add my feeble glimmer of testimony as a practical experimentalist to theirs as to the benefits derivable from out-door treatment in selected cases. We all well know that there are some people mentally blighted who are best dealt with in an asylum, and who are safer and better than they could possibly be if removed; but may there not be many sufferers, like the one I have above instanced, who would be greatly, perhaps rapidly, advantaged by domestic care, coupled with guarded freedom? Surely this is a very grave and important question for the friends and relatives of the insane to consider, answer, and act upon.

Admittedly, it is not every medical man who is fitted by disposition, temperament, and special experience to deal with mental cases out of doors, or who would care for the responsibility; but there would be no difficulty in friends seeking guidance as to a proper selection of a house from eminent specialists or others well qualified to give it. I cannot help feeling very strongly that, inasmuch as conservative surgery stands far higher than merely operative, so also the psychologist, who is likewise the apostle of freedom, takes a far more humane, enlightened, and intelligent stand-point than one who is the advocate of persistent sequestration, and often dreary, monotonous, and old-fashioned restraint.—Your obedient servant,

Lowestoft, Aug. 16th, 1881. HENRY GRAMSHAW.

PUBLIC SCHOOLS AND VACCINATION.

To the Editor of THE LANCET.

SIR,—I have just completed an inspection of the children attending the public schools in the ten principal parishes of this town, and I discovered no less than a hundred children without any marks of vaccination! I should feel disposed to say that of those who had marks, at least 25 per cent. were unprotected, either because the marks were too few in number, or because they were imperfect in character. It appears to me that the School Board authorities should make it a rule to have the children periodically inspected by a medical man, and in addition it would be desirable that no child should be admitted as a scholar if he or she had no vaccination marks. I agree with you in thinking that small-pox will never be stamped out in this country until a compulsory Revaccination Act is passed.

I am, Sir, yours obediently,

T. GARRETT HORDER,
Cardiff, Aug. 13th, 1881. Public Vaccinator.

IRELAND.

(From our own Correspondent.)

THE annual report of the Queen's College, Galway, for the Session 1880-81 is satisfactory as judged by the total number of its students and the steady growth in the estimation in which it is held by the public. In the Session just closed, the students attending lectures amounted to 208, or an increase of twenty-eight as compared with the previous return, of which number 120 attended lectures in the Faculty of Medicine, being the largest since the College was established. Daily attendance on lectures is stringently enforced, and class examinations are frequently held; while no credit is given for attendance when the answering of the student shows inadequate study of the subject. The library and museums are stated to be in a satisfactory condition, and a departmental catalogue is now nearly completed, which will greatly facilitate access to the several departments, and increase their usefulness for the purposes of study. To the museum of Natural History there has been added a collection of foreign birds of a very interesting kind; and the museum attached to the Chair of Mineralogy and Geology has been enriched by a set of specimens of a rare character, which throw light on some interesting questions in geological science.

By the scheme for the organisation of the Royal University of Ireland, as adopted by the Senate, every candidate for matriculation must duly forward his name on or before August 15th, while the University examinations will commence on the third Tuesday in September; but as the sanction of the Crown has not up to the present been formally obtained, until this is secured no portion of the scheme can be brought into operation, and it appears very improbable that anything of the kind will take place this year. The Bill for securing an endowment of the new University has also to be passed, and some time will be required for compiling the formal regulations under which the examinations will be held. It seems most likely, therefore, that the Senate will not be in a position to hold any matriculation examination for some time; but the uncertainty which prevails has caused a considerable amount of anxiety among intending competitors, who, as no authoritative statement has been made by the Senate, have naturally been very anxious to know whether they should have forwarded their names as candidates for matriculation or not.

In Belfast Workhouse, for the week ending August 6th there were 10 cases of small-pox under treatment. The disease also exists in Lurgan, and a few cases have recently appeared at Waterford. In Dublin during the past quarter only one death from small-pox was recorded.

Typhus fever, though still prevalent in Cork, has materially abated within the last few weeks.

The Cookstown Town Commissioners have requested the Local Government Board not to sanction the proposed pipe water scheme for this town, as a large majority of the inhabitants are against it. It will be necessary for the Board to hold a formal inquiry before they can sanction, or their inspector approve of, the plans for supplying Cookstown with water. This inquiry must be held before a provisional order can be issued or a loan be sanctioned; and they have suggested to the Cookstown guardians, who are anxious about the matter, that they should be guided by the views of their own engineer.

The annual ball in aid of the funds of the Cork Lying-in Hospital will be held on the 14th October.

Obituary.

MR. LUKE, F.R.S., F.R.C.S.

WE regret to announce the death of Mr. James Luke, many years one of the surgical staff of the London Hospital, which took place near High Wycombe on Monday last. Born in the year 1799, he became in 1816 a pupil of the late Mr. Andrews at the London Hospital, and passed his examination at the Royal College of Surgeons in September, 1822. In the following year he was appointed Lecturer on Anatomy at the London Hospital. In 1827 he was elected Assistant Surgeon to the hospital, and on the death of Sir William Blizard in 1833 became one of the principal surgeons. In 1843 Mr. Luke was elected one of the Honorary Fellows of the College. He subsequently became a Member of the Council, and of the Court of Examiners, Hunterian Orator, and has on two occasions filled the office of President of the College. Mr. Luke was elected a Fellow of the Royal Society in 1853. He retired from practice some years ago.

THE governors of the Wolverhampton and Staffordshire Hospital have just received a donation of £500 from the executors of the late Mr. John Cooper, of Wolverhampton.

Medical News.

UNIVERSITY OF GLASGOW.—The Degree of M.D. has been conferred on the following gentlemen during the summer session 1881:—

Drummond, J., M.B., Scotland.
Frazer, Henry, Ireland.
M'Calman, Dove, M.B., Scotland.
Mackellar, Edw. D. M., M.B., Scotland.
Maclachlan, A., M.B., Scotland.
Macphail, D., M.B., Scotland.
Main, J. Sword, M.B., Scotland.
Moir, William B., M.B., Scotland.
Park, Robert, Scotland.

The following gentlemen have received the Degrees of M.B. and C.M.:—

Alexander, J. H., Scotland.
Anderson, George, England.
Bainbrigge, Wm. P. Y., England.
Beck, Alexander F., Scotland.
Blaney, Ronald, India.
Chalmers, Alexander, Scotland.
Clarke, Frederick H., Scotland.
Conway, John, Scotland.
Couper, David.
Davidson, Anstruther, Scotland.
Dickson, George, Scotland.
Donald, James.
Downie, James Walker, Scotland.
Durran, David, Scotland.
Fergus, A. Freeland, Scotland.
Ferguson, James, Scotland.
Grange, James William, England
Hannington, Robert, Scotland.
Haydon, Edgar, England.
Hunt, John M., Scotland.
Hunter, C. Buchanan, Scotland.
Irving, John, Scotland.
Jamieson, Charles, Scotland.
Jones, J. Edmund, Wales.
Jones, Richard W., Wales.
Keay, John, Ireland.
Lawrie, David, Scotland.
Lawrie, J. Macpherson, Scotland.
Lloyd, Jenkyn, Wales.
Low, John H., Scotland.
M'Farlane, William, Scotland.
Morris, John, Scotland.
M'Phee, Dugald, Scotland.
Morrison, Wm., M.A., Scotland.
Pritchard, Richard, Wales.
Robertson, James, Scotland.
Robertson, Wm. H. H., Scotland.
Simpson, Donald, Scotland.
Smith, Peter C., M.A., Scotland.
Stewart, C. W., M.A., Scotland.
Tudhope, Adam P., Scotland.
Violette, W. B., Sydney, N.S.W.
Williams, Wm. M., Wales.
Wilson, Frank, Scotland.
Wilson, Henry, Scotland.
Wolstenholme, George, England.
Wyllie, John, England.
Young, John M., Scotland.

The following gentleman has received the Degree of M.B.:—
Lowe, John, Scotland.

The following gentleman has received the Degree of C.M.:—
McDougall, John, M.D.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Aug. 11th:—

Clegg, John H., Canonbury-square.
Goulden, Jas. Henry Oswald, Stockport.
Mark, Leonard Portal, Pall Mall.
Minchinton, Henry James, Brixham, S. Devon.
Pollard, Joseph, Welbeck-street.
Pounds, Thomas Henderson, Chatham.
Scott, Bernard, Brighton.
Voss, Francis Henry Vivian, Clapton-square.

The following gentlemen also on the same day passed the Primary Professional Examination:—

Fowler, Charles Owen, University College.
Smith, John, Charing-cross Hospital.
Underwood, John Charles, Guy's Hospital.

THE fifth annual meeting of the American Dermatological Association will be held in Newport, R. I., on August 30th and 31st, and September 1st. Arthur Van Harlingen, M.D., is the secretary.

HOSPITAL FOR CONSUMPTION, BROMPTON.—At the quarterly Court of Governors, held on the 4th inst., it was stated that the new extension buildings were fast approaching completion, and that a part of them was expected to be open for the reception of patients before winter.

MRS. ELIZABETH LETHEBY has left a sum of £1000 to form a scholarship or prize, to be awarded annually to the student in the medical school of the London Hospital who shows himself most proficient in chemistry. Such scholarship is to be known as the "Dr. Letheby Prize," in memory of her late husband.

Medical Appointments.

Intimations for this column must be sent DIRECT *to the Office of* THE LANCET *before 9 o'clock on Thursday Morning, at the latest.*

BARK, J., M.R.C.S., has been appointed Honorary Surgeon to Stanley Hospital, Liverpool, vice F. T. Paul, F.R.C.S.Eng., resigned.

BUCHANAN, J. H., M.D. St. And., L.F.P.S.Glas., has been reappointed Medical Officer of Health for Thirsk Rural Sanitary District.

BUCK, J. S., L.R.C.P.Ed., M.R.C.S., has been appointed Resident Medical Officer to the Rochester and District Friendly Societies Medical Association.

EVANS, E., M.B., C.M.Glas., has been reappointed Medical Officer of Health for the Anglesey and Beaumaris Unions.

GROVES, H. J. F., L.R.C.P.Lond., M.R.C.S., L.S.A.Lond., has been appointed Medical Officer of Health for the Parish of Lambeth, vice Farr, resigned.

HARRISON, J., M.R.C.S., L.S.A.Lond., has been reappointed Medical Officer of Health for the Braintree Urban and Rural Sanitary Districts.

HILL, P. E., M.R.C.S., L.S.A.Lond., has been appointed Certifying Factory Surgeon for the Crickhowell District, vice W. J. Clapp, M.R.C.S., resigned.

JOHNSTON, R., M.R.C.P.Ed., L.R.C.S.I., has been appointed Medical Officer for the Wymondham District of the Melton Mowbray Union.

JONES, D. J., M.D.Edin., M.R.C.S., has been appointed Senior [not Junior, as stated last week] Assistant Medical Officer of the Kent County Asylum, Barming-heath, near Maidstone.

JONES, R., M.R.C.S., has been elected Honorary Assistant-Surgeon to the Liverpool Stanley Hospital, vice J. Bark, resigned.

JONES, W., M.R.C.S., has been appointed Medical Officer to the Workhouse of the Strand Union, vice Biddle, deceased.

LEEDS, E., M.A., M.B.Oxon, has been appointed Physician to the Seamen's Infirmary, Ramsgate, vice T. A. Henderson, M.D., deceased.

MOUNSEY, G. H., M.B., C.M.Edin., has been appointed House-Surgeon to Chalmers Hospital, Edinburgh, vice J. F. W. Clarke, L.R.C.S.Ed., L.R.C.P.Ed., resigned.

NOURSE, W. J. C., L.S.A.Lond., has been appointed Medical Officer for the Morchard Bishop District of the Crediton Union.

PAGE, F. M., L.R.C.P.Ed., L.R.C.S.Ed., has been appointed Medical Officer for the Bitton District of the Keynsham Union.

POOLEY, Mr. T. A., has been appointed Public Analyst for the Borough of Maldon.

ROWLEY, C., M.R.C.S., L.S.A.Lond., has been appointed Medical Officer for the Silkstone District of the Penistone Union.

STEVENSON, F. C., L.K.Q.C.P.I., L.R.C.S.I., has been appointed House-Surgeon to the Rochdale Infirmary.

THOMPSON, T. W., M.R.C.S., has been appointed Medical Officer for the First District of the Hatfield Union.

TILY, J., M.D., L.R.C.P., M.R.C.S., L.S.A.Lond., L.M., has been appointed District Medical Officer and Public Vaccinator to the No. 2 Chiswick District of the Brentford Union, vice Dr. Dodsworth, resigned.

TURNER, G., M.R.C.S., has been appointed Medical Officer of Health for the Borough of Hertford, vice Woodhouse, resigned.

WILSON, H., M.R.C.S., L.S.A.Lond., has been appointed Medical Officer for the Wavertree District of the West Derby Union.

WOODFORDE, W. T. G., M.D.Lond., L.S.A.Lond., has been reappointed Medical Officer of Health for the Maidenhead Urban Sanitary District.

Births, Marriages, and Deaths.

BIRTHS.

BRUNTON.—On the 12th inst., at 50, Welbeck-street, W., the wife of T. Lauder Brunton, M.D., F.R.S., of a daughter.

HARDWICKE.—On the 12th inst., at Purton Lodge, Sheffield, the wife of Herbert Junius Hardwicke, M.D., F.R.C.S., of a son.

HEDDY.—On the 16th inst., at 25, Hollywood-road, South Kensington, the wife of Wm. Jackson Heddy, M.R.C.S., of a daughter.

KEYWORTH.—On the 3rd inst., at Wem, Shropshire, the wife of George Hawson Keyworth, M.B., of a son.

PHILPOT.—On the 11th inst., at Redcliffe-gardens, S.W., the wife of J. Henry Philpot, M.D.Lond., of South Eaton-place, S.W., of a son.

ROWLAND.—On the 8th inst., at Gloucester House, Malvern Wells, the wife of H. Mortimer Rowland, M.D., L.R.C.P.L., of a daughter.

SHEARMAN.—On the 16th inst., at Lark-hill, Swinton, near Manchester, the wife of W. M. Shearman, M.R.C.S., of a daughter.

MARRIAGES.

BOULTER—STEELE.—On the 11th inst., at St. Stephen's, Dublin, Harold Baxter Boulter, F.R.C.S., youngest son of the late Benjamin Boulter, Esq., of Hull, to Dorothea Anna Georgina, eldest daughter of George Vandeleur Steele, Esq., formerly of Skeirke, Queen's County, Ireland.

COMYN—OWEN.—On the 10th inst., at St. Peter's Roman Catholic Church, Woolwich, and afterwards at St. John's Church, Woolwich, J. Sarsfield Comyn, M.B., Surgeon-Major in the Army, second son of the late Francis Comyn, Esq., J.P., of Woodstock, co. Galway, to Sophia Agnes, second daughter of Colonel C. H. Owen, Royal Artillery.

NANKIVELL—THRELFALL.—At the Parish Church, Lytham, Lancashire, by the Rev. H. B. Hawkins, Vicar, Frank Nankivell, M.D., of Broadhayes, Bournemouth, youngest son of F. H. Nankivell, M.R.C.S., of Bootham, York, to Margaret, second daughter of the late Thomas Threlfall, of Edenfield, Lytham.

WHITTLE—PRESTON.—On the 10th inst., at St. John's Church, Lewisham High-road, Glyn Whittle, M.A., M.D., Caius College, Cantab., son of Ewing Whittle, M.D., M.R.I.A., of Liverpool, to Edith, fifth daughter of Charles Preston, of Amersham-road, S.E.

DEATHS.

HOLMAN.—On the 9th inst., at Hurstpierpoint, H. Martin Holman, M.D., aged 60.

LUKE.—On the 15th inst., at his residence, Fingest-grove, Wycombe, Buckinghamshire, James Luke, F.R.C.S., F.R.S., aged 82.

N.B.—*A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths*

Notes, Short Comments, and Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Local papers containing reports or news-paragraphs should be marked.

Letters, whether intended for publication or private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

Lectures, original articles, and reports should be written on one side only of the paper.

We cannot prescribe, or recommend practitioners.

All communications relating to the editorial business of the journal must be addressed "To the Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "To the Publisher."*

TRAMWAYS AND PRIVATE CARRIAGES.

THE needless, but increasing, wear and tear of private carriages by the tramways which are being rapidly extended over London suburbs is becoming a source of serious annoyance and loss to professional men. It must certainly be possible to lay the rails on a better principle, and to secure that the street paving shall be adapted to the tramway. As it is, sometimes the road is out of order and sometimes the tramway. They are seldom in the same state at any one time. No precautions are taken to keep the rails level with the street. Whether the road be paved with stone or macadamised the result is equally disastrous. If the "authorities" were held responsible for paving the whole of the thoroughfare, and required to keep the way in good condition both for tramcars and for ordinary vehicles, there would soon be an end to what is something more than a source of mere annoyance. At present the companies are supposed to keep the centre of the roadway in repair, while the local authorities are responsible for the sides, hence the inequality.

Mr. J. D. McCaw.—We think the criticism offered scarcely justified. We always welcome reports of interesting cases.

DR. McCLINTOCK'S INAUGURAL ADDRESS AT THE INTERNATIONAL MEDICAL CONGRESS.

To the Editor of THE LANCET.

SIR,—Assuming, as I hope I may do, that historical accuracy has equal claims with rhetorical flourish in the addresses from the presidents of the several sections of the International Medical Congress, I venture to ask the President of the Obstetric Section for his authority for the very precise and carefully elaborated statement he made in his inaugural address that the celebrated Arbuthnot, the friend of Swift and Pope, and the favourite physician to Queen Anne, was a practitioner in midwifery. This is so novel and startling an assertion that one would really be glad to know more about it.

Dr. McClintock quotes a line "from Swift or Pope"—the words in inverted commas, be it observed, are his own, we may, therefore, infer he is not very certain about it—which to all appearance is his authority, and I suspect his only authority for the statement to which I take exception, or at least in respect of which I need more evidence than has yet been adduced. The line, which my ear tells me Pope would have disowned as given by Dr. McClintock, runs thus:—

"Arbuthnot's soft obstetric hand."

To some persons this may seem conclusive, but where, I ask Dr. McClintock, is that line to be found? I have no recollection of it in any of Swift's or Pope's published works, and I have thus far searched for it in them in vain. Will Dr. McClintock pardon me if I suggest that his memory and his imagination have misled him in his fundamental fact, the line I am now considering, and that all his grand inferences based upon it are thereby vitiated? I believe Dr. McClintock has appropriated to Arbuthnot what Pope really wrote of a very distinguished obstetric practitioner and anatomist, Dr. James Douglas, a physician of great learning and no less taste, who, by the way, Dr. McClintock strangely omits to notice, and whom the poet apostrophises in the 4th book of the Dunciad as follows:—

"To prove the goddess clear of all design,
Bid me with Pollio sup, as well as dine;
There all the learn'd shall at the labour stand,
And Douglas lend his soft obstetric hand."

If I am right in my surmise the inference is clear that Dr. McClintock's statement that Arbuthnot was an obstetric physician is wholly unfounded.

I remain, Sir, yours, &c.,

August, 1881. W. M.

PERITYPHLITIS IN CHILDREN.

DR. V. P. GIBNEY, in a paper in the *American Journal of the Medical Sciences*, draws attention to the close way in which perityphlitis in children may simulate the earlier stages of hip-joint disease, and he cites some cases in which an incorrect diagnosis was made. Like morbus coxæ, it causes flexion and eversion of the hip, inability to extend the joint, fulness about Poupart's ligament, a limp in walking, and even flattening of the buttock. The differential diagnosis can, however, be established by noticing that there is no pain on percussing the joint, and that if it is well flexed rotation is quite free and painless, in that position the psoas and iliacus being quite relaxed. Also the swelling is at first, and usually throughout, limited to the iliac fossa; while, as a last point, it is noteworthy that the course is much more rapid than in coxitis.

Scrutator.—The wholesome rule is to commence and conclude the active labours of the day with a substantial meal, only slight refreshment being taken during the hours of working. A good breakfast, with meat, fish, &c., at 8 A.M., a sandwich or biscuit at 1 P.M., and dinner at 6 P.M., constitute probably the best arrangement of meal hours for those engaged in business.

Dum Spiro Spero.—Newth, "A First Book of Natural Philosophy" (John Murray, London, 3s. 6d.); Todhunter, "Mechanics for Beginners" (Macmillan, London, 4s. 6d.); Ganot's Physics.

CONSTRUCTION OF HOSPITAL WARDS.

To the Editor of THE LANCET.

SIR,—The final comparison between "oblong" and "circular" wards in your interesting criticism on the architectural drawings at the late Exhibition (THE LANCET, July 30th) appears to me somewhat misleading and overstrained.

A circular ward 60 ft. diameter and 15 ft. high has the same cubical contents as an oblong 141 ft. long, 25 ft. wide, and 12 ft. high; and the cost (other things equal) being proportionate to the cubical contents, it is argued they should cost the same; but are other things equal? In the case of the oblong, there is 144 ft. more run of wall foundations, etc.; nearly 1200 sq. ft. more internal area of wall; and 700 sq. ft. more floor, ceiling, and roof. These "extras" might be counterbalanced by the extra cost of "circular work," but I very much doubt it; and in my design the walls externally are made polygonal to minimise the effects of this drawback.

Oblong wards are so universal that in order to prove their superiority over "circular" ones, it should be unnecessary to conjure up a "regulation" pattern ward of such abnormal proportions as the one above recited. No ward does, or in my opinion ever will, exist 12 ft. high and 50 yds. long, and that for only 21 patients. If a large amount of wall space per bed be the object aimed at, then a circular ward, say 40 ft. diameter with 10 patients, meets the case exactly.

Your obedient servant,

Cockspur-street, Pall Mall, S.W. FRANCIS E. JONES.

SUNSTROKE.

To the Editor of THE LANCET.

SIR,—I have only just read Dr. Dale's letter on Sunstroke in your last issue. May I ask you in fairness to insert the enclosed extract from a work by Dr. B. Ridge, which was written some years ago, and which opinion as to its treatment he held and explained to me very many years since. In fact I should have quoted it some weeks ago had I been an M.D. Lond. to command attention.

"In the opposite stage to congelation, that of sunstroke, the remedies of ice and cold application seem to me to be opposed to all physiology. Here the nervous sensorium has been directly attacked by over heat, which has liquefied the blood and all the inorganic fluids to the highest extent, and forced them out of the cavities of the brain. The consequence of this is plainly shown in the powerless state of the nerve matter itself. The treatment then should be first to place the patient in a recumbent position in a dark room, and to apply hot fomentations to the head and down the spine, as well as to the extremities. It has been proved that the brain in sunstroke is emptied of its blood. Surely ice and cold do not tend to bring it back! Whatever power the system may exert to do this by natural laws of restoring an equilibrium and forcing blood into its accustomed channels is abrogated, as well as those laws of the combination of the inorganic elements to give lubricating powers. The very application of ice and cold upsets all Nature's proceedings in a healthy direction. I do, therefore, say that if brains are deprived of all their nourishing blood by sunstroke, depend on it warmth is the truest plan to restore them to integrity. But in the present treatment by ice it is better that death followed than life saved to be for ever after subject to the disordered state we so often see after these severe visitations, for it is totally impossible that after the great disturbance of the material combinations of nerve elements, which we witness after sunstroke, and the present practice of preventing this nerve substance being restored by the use of ice, that the immaterial essences or thoughts hereafter to be fabricated by what is left, with all its reasonable deficiencies, can be of the same healthy character as formerly. I am confident that if the plan I have sketched were adopted many more lives would be saved, as well as minds, along with them."

I am, Sir, your obedient servant,

Kilburn Priory, Aug. 15th, 1881. C. I. H., M.R.C.S. & L.S.A.

Surgeon.—Considering the great changes which have already taken place, and those which are still being introduced, we do not think the time has yet come in which the inquiry proposed by our correspondent could be made with advantage.

Dr. Moriarty (Cork).—In an early number.

A Sufferer should consult a qualified medical practitioner.

Mr. C. Adams.—The communication shall receive attention next week.

"POISONOUS SCENTS."

To the Editor of THE LANCET.

SIR,—I beg to inform Mr. Eugène Rimmel, through the medium of your journal, that the scent my patient used was by no means either "cheap" or "trashy." It was purchased at one of the largest and most respectable establishments in London, and, of course, direct from the maker, who most courteously read to me from his laboratory book the formula for the scent in question, and I can therefore assure Mr. Rimmel no "nitro-benzine" entered into its composition, nor did it contain anything save the most innocent vegetable odours.

My patient's sufferings may be accounted for in two ways. Firstly, the application of undiluted spirit to the skin; and secondly, it is possible she may have a peculiar idiosyncrasy with regard to some one or more of the scents which entered into the composition of the "heliotrope."

I remain, Sir, yours, obediently,
MATTHEW BLOXAM.

Dorset-square, Regent's-park, Aug. 16th, 1881.

RIGHT ARM, WITH SCAPULA ATTACHED, DRAGGED CLEAN FROM THE BODY; RECOVERY.

To the Editor of THE LANCET.

SIR,—The following case appears to me worthy of record:—On Sept. 10th, 1880, William I——, aged seventeen, miner, got entangled in an iron rod, revolving on its own axis, in a triangular wooden trough, and was dragged between the rod and trough, a space of five inches and a half, with the above result, his head and body being much bruised also. He was conscious when extricated, and was removed in a car to his home, three miles off, where he was first attended to. The outer two-thirds of the clavicle were sawn off, and the flaps fairly brought together. The main artery was ligatured, but the amount of blood lost altogether was very little.

The following synopsis is extracted from my notes taken of the case:—The first dressings were wetted with carbolic lotion (1 in 40) on the third day, but not removed till Sept. 15th. The wound looked healthy little pus and no smell; edges gaping a little at the middle, where there was scarcity of skin. These infrequent dressings were continued, and at the end of three weeks the patient got up. After another week had passed he was allowed to take open-air exercise. There was hardly an unfavourable symptom throughout.

I remain, Sir, yours, &c.,
J. ELLIS-JONES, M.B., C.M. Edin.

Abersoch, near Pwllheli, North Wales.

A CENTENARIAN.

To the Editor of THE LANCET.

SIR,—The following case of a centenarian (aged 106) will, I think, prove sufficiently authenticated for publication should you find space for it in your valuable journal.

Michael Morgan, born in Clerkhill, parish of Kilmegan, co. Down, states himself that if he lives he will be 107 next Michaelmas Day (his birthday). No registers were kept at the time of his birth for reference. A prayer-book, with the date of his birth, was destroyed with his dwelling eight years ago. He was known to the Rev. James McAleenan, parish priest of Castlewellan, who died five years ago, aged ninety, and who always looked upon Morgan as an old man compared with himself, Morgan in his turn regarding him as very much junior to himself. Known also to the Rev. B. McAleenan, Catholic curate, Warrenpoint, nephew of the above, and to other local clergy, by whom he is regarded as a man of extraordinary age. He remembers well the battle of Ballinahinch (nine miles from Castlewellan) in 1798, and was in that year twenty-three years old, and in the service of Lord Richard Annesley as stable servant to his daughter. Married twice; second wife still alive, an aged woman. Four children by first marriage; none survive. Habits were always most temperate. Diet latterly said to be much better through charity. Relates with pride that he was never before a magistrate. Walks three miles every Saturday to Warrenpoint; goes his rounds here, to those who know him, and returns the same afternoon with his bag of begging proceeds. Also generally visits Mayo Bridge (two miles from his house), and Newry (four miles) fortnightly, returning the same evening carrying his bundle. Walks with body "bent double," and suffers from general tremor to such a degree as to necessitate his being fed. This is very remarkable in view of his great walking powers. Sight and hearing very good considering his age. Memory also good, but soon tired out by any attempts to cross-examine him in verifying his history. He exposes himself to the most severe weather. I have seen him out in wind with rain and bitter cold, soaked through; also in hard frost and deep snow.

I am, Sir, your obedient servant,
FREDERICK C. BARKER, F.R.C.S.I.,
Warrenpoint, County Down. Bombay Medical Service.

Mr. J. Wyllie, M.B.—We cannot express any opinion on the comparative value of the certificate of competency in sanitary medicine issued by different examining bodies. As to text-books and requirements of the examination for the certificate, our correspondent should write to the registrar of the examining body he may select.

Fœcundis.—Earle, "Flooding after Delivery"; Barnes, "Lectures on Obstetric Operations."

Mr. C. J. B. Johnson.—An ordinary tuning-fork is used.

CHLOROFORM INHALATION IN POISONING BY STRAMONIUM LEAVES.

To the Editor of THE LANCET.

SIR,—The following may, perhaps, be deemed of sufficient interest for insertion in your pages:—

In the latter part of last year, at midnight, I received a very pressing call. At the midday meal a family had partaken of a dish of boiled stramonium leaves in mistake for greens. The parents and one child, who had soon discovered their mistake, were not very seriously affected; but the son, aged eight, having eaten a considerable quantity, quickly showed dangerous symptoms, and, although he vomited shortly afterwards, became wildly delirious. When I arrived the boy had been in this state eleven hours and a half, and seemed to grow worse. Two medical men had separately called and administered the "usual remedies," and the boy's shirt was soaked with mustard emetics and castor oil.

The action of chloroform appears to be antagonistic to that of the delirianta. Professor Schäfer has recommended the use of atropia during the inhalation of chloroform (see Ringer's Therapeutics, p. 515). Bearing this in mind I determined to try chloroform inhalation in this case. The result exceeded my expectations. In a few seconds the boy became quieter, roused himself to vomit about a handful of dark green leaves, then again became quiet. His face regained its normal tint, and in five minutes he appeared to be in a natural slumber.

The boy slept thus through the night and got up to his breakfast quite recovered. I am, Sir, yours, &c.,
Taranaki, New Zealand. ERNEST RAWSON, M.R.C.S.E., &c.

H. G. D.—It is very difficult to offer advice in a case of the kind mentioned. The statement is too general. It is unfortunately true that there are men in the profession who, having a diploma or licence to practise, are yet destitute of the true professional spirit.

Locum Tenens.—Such advertising is doubtless unprofessional, and contravenes the spirit, if not the letter, of the by-laws of the Colleges from which licences and diplomas are obtained.

WE must refer *Dr. Martin* to one of the charity directories—say Howe's, published by Longmans.

EXCISION OF FIBROID TUMOUR OF THE NECK, WEIGHING FIVE POUNDS AND A QUARTER; RECOVERY.

To the Editor of THE LANCET.

SIR,—The following case is submitted for publication as containing points of surgical interest:—

S——, a native of Nepaul, aged fifty-two, a chowkidar, or watchman. Three years since my attention was called to this patient on account of a large swelling occupying the anterior part of the neck, on the right side. It was then causing him no inconvenience, except from its weight and large size. The patient was anxious to have it removed, but on examination it was found to have extensive connexions, therefore I advised that for the present it should not be interfered with. For two years and a half the increase of the tumour was gradual, but during the last six months its growth became exceedingly rapid, and as very free hæmorrhage frequently took place owing to extensive sloughing of the skin over the mass, thereby rendering the man's condition a very critical one, my colleague (Dr. Haydon) and myself deemed it advisable to operate at once.

On Jan. 18th the patient was taken to the Kurseong Dispensary and placed upon good nourishing diet, and further hæmorrhage prevented by raising the tumour, &c. On Jan. 20th, having summoned the aid of the Assistant-Surgeon of the Darjeeling Steam Tramway and the hospital assistant of the Government Dispensary, Kurseong, the operation was performed as follows:—First, the tumour being kept raised for a few minutes, chloroform was administered, and a tight ligature was placed round its pedicle. Two elliptical incisions were now made, one on either side of the tumour where the pedicle joined it, the two flaps were carefully reflected, and the whole mass dissected from its attachments. The hæmorrhage was free, five or six arteries requiring ligatures (silk being used). The flaps were now brought together and secured by six wire sutures. The wound was dressed for the first day with dry lint and a compress, and subsequently with carbolic oil (1 in 12). During the first week after the operation the temperature varied, never rising above 100·5°; since then it has been normal, the wound healing chiefly by first intention.

I am, Sir, your obedient servant,
Kurseong, Bengal. A. B. MORRIS, L.K.Q.C.P.I., L.R.C.S.I.

TRACTION IN JOINT DISEASE.

To the Editor of THE LANCET.

SIR,—A case on this subject, published in a recent issue of your journal, practically proves a point that I have argued for years—viz., that if continued traction is made at the ankle at one point, from the groin at the other, a great part of the lengthening produced is the result of elongation or even partial luxation of the knee-joint. This false lengthening of the limb, I am certain, has frequently led to disappointing results in both fractured femora and disease of the hip-joint, and that after most careful measurements have from time to time been made during treatment, the termination showed far more shortening than the medical attendant expected. I have for years, in both fractured femora and hip-joint disease, made my bottom traction from the lower end of the femur, and not from the ankle, the treatment proving far less irritating to the patient, and the results more brilliant.

I am, Sir, faithfully yours,

Staunton-on-Wye, Hereford. PETER GILES, Jun.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Bridges Adams, Frankfort; Mr. Fitzmaurice, Pontesbury; Mr. F. E. Jones, London; Dr. Fitzpatrick, London; Mr. Startin, London; Dr. Duncan, London; Mr. Horder, Cardiff; Dr. Zuelzer, Berlin; Mr. C. Nedwill, Christchurch, New Zealand; Mr. Johnson; Mr. Oxford, Keynsham; Mr. A. J. Harvey, Great Yarmouth; Dr. Martin, Ancoats; Surgeon-Major Macdowall; Dr. Merrick, Canyonville, Oregon; Messrs. Zimmermann and Co., London; Mr. Gill, Liverpool; Mr. Price, Wolverhampton; Mr. Young, Tunbridge Wells; Mr. Deacon; Messrs. Brady and Martin; Dr. Thomas, Glasgow; Mr. Abbott, Heckmondwike; Mr. Webb, Fleetwood; Mr. Sullivan, Leicester; Mr. Hamilton, Liverpool; Mr. Stride; Messrs. Marshall and Co.; Mrs. Rahn, Ipswich; Mr. M. Bloxam, London; Mr. Wyllie, Walsall; Mr. Easton, Grantham; Dr. Hickinbotham, Birmingham; Dr. Barford M. Fisher, London; Dr. Buzzard, Lea; Mr. F. R. Fisher, London; Mr. Tahil, Shiraz; Dr. Fothergill, London; Dr. French, Manchester; Mr. Wigmore, London; Mr. Haggard, London; Mr. Hutchinson, London; Mr. C. Adams, London; Dum Spiro Spero; Scrutator; Locum Tenens; M.D., Edinburgh; H. G. D.

LETTERS, *each with enclosure*, are also acknowledged from—Dr. Strange, Aberdeen; Mr. Cornish; Mr. F. A. White, London; Mr. Cox, Aston-on-Clun; Mr. Long, Sherbourne; Mr. Norris, Charmouth; Messrs. Bowes and Rawling; Mr. Hunt, Hull; Mr. Nicoll, Dundee; Mr. Morgan, Box; Mr. Robson, South Shields; Mr. Laing, Uphelland; Miss Threlfall, Lytham; Mr. Broome, Antigua; Mr. Deacon, Knighton; Dr. Seaborne, Wombwell; Dr. Moullin, London; Dr. Brunton, London; Dr. Roland, Malvern; Mr. Freeman, Acton; Mr. Spowart, Sheffield; Mr. Bryan, London; Mr. Wall, Wigan; Dr. Clark, Folkestone; Mr. Girling, Birmingham; Mr. Wilmot, Shepherd's-bush; Mr. Mumford, Sudbury; Mr. Watkins, Worcester; Mr. Shearman, Swinton; Mr. Owen, Cambridge; M.R.C.S., Salsarn; Medicus, Edinburgh; A., Kennington-lane; Medicus, Manchester; L.R.C.P., Leeds; A.; C. R. S., Barnard Castle; Alpha, Bristol; Medicus, Minchinhampton; Beta, Oswaldtwistle; A. N., Dawley; L.S.A., Hornsey; M. N., York; M.D., Camberwell; W. V. C.; J. H. W., Yorktown; Physician; B.A., London; B.P.; Alpha, Limehouse; Rus; Medicus, Stoke-on-Trent; Sine Diploma; M.R.C.S.; Sigma; D. J. S., Sheffield; X.; Surgeon, Pentrepath; M.S.; Surgeon, King's-cross; Principal, Seaford.

The Schoolmaster, The Oracle, Melbourne Argus, Japan Weekly Mail, The Down Independent, Leeds Mercury, Manchester Guardian, The American, Indian Medical Gazette, Charity Record, &c., have been received.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET OFFICE, August 18th, 1881.

Date.	Barometer reduced to Sea Level, and 32° F.	Direction of Wind.	Dry Bulb	Wet Bulb	Solar Radia in Vacuo	Max. Temp Shade	Min. Temp	Rain fall.	Remarks at 8.30 A.M.
Aug. 12	29·82	WNW	55	53	..	69	53	·05	Rainy
,, 13	29·70	N.W.	56	53	82	61	47	1·10	Cloudy
,, 14	29·80	N.W.	56	52	87	61	51	..	Cloudy
,, 15	29·88	W.	59	54	93	65	51	·04	Cloudy
,, 16	29·64	W.	61	54	99	67	55	..	Overcast
,, 17	29·47	N.W.	60	58	98	69	54	·03	Cloudy
,, 18	29·58	N.W.	58	54	98	68	52	·15	Cloudy

Medical Diary for the ensuing Week.

Monday, Aug. 22.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M. each day, and at the same hour.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M. each day, and at the same hour.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
ST. MARK'S HOSPITAL.—Operations, 2 P.M.; on Tuesday, 9 A.M.
UNIVERSITY COLLEGE HOSPITAL.—Ophthalmic Department.—2 P.M., and on Tuesday, Thursday, and Friday, at the same hour.

Tuesday, Aug. 23.

GUY'S HOSPITAL.—Operations, 1½ P.M., and on Friday at the same hour.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 3 P.M.

Wednesday, Aug. 24.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.
MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
ST. THOMAS'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
ST. MARY'S HOSPITAL.—Operations, 1½ P.M.
KING'S COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at 1 P.M.
LONDON HOSPITAL.—Operations, 2 P.M., and on Thursday and Saturday at the same hour.
GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at the same hour.—Skin Department.—1.45 P.M., and on Saturday at 9.15 A.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2½ P.M.

Thursday, Aug. 25.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—1½ P.M. Surgical Consultations.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and on Friday at the same hour.
HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M.
NORTH-WEST LONDON HOSPITAL.—Operations, 2½ P.M.

Friday, Aug. 26.

ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 2 P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

Saturday, Aug. 27.

ROYAL FREE HOSPITAL.—Operations, 2 P.M.

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An original and novel feature of "THE LANCET General Advertiser" is a special Index to Advertisements on page 2, which not only affords a ready means of finding any notice, but is in itself an *additional* advertisement.

Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

Answers are now received at this Office, by special arrangement, to Advertisements appearing in THE LANCET.

Terms for Serial Insertions may be obtained of the Publisher, to whom all letters relating to Advertisements or Subscriptions should be addressed.

Advertisements are now received at all Messrs. W. H. Smith and Sons' Railway Bookstalls throughout the United Kingdom, and all other Advertising Agents.

Tables of Contents, with the Index of Advertisements, for each Number can be had on application to the Publisher.

Agent for the Advertising Department in France—J. ASTIER, 67, Rue Caumartin, Paris.